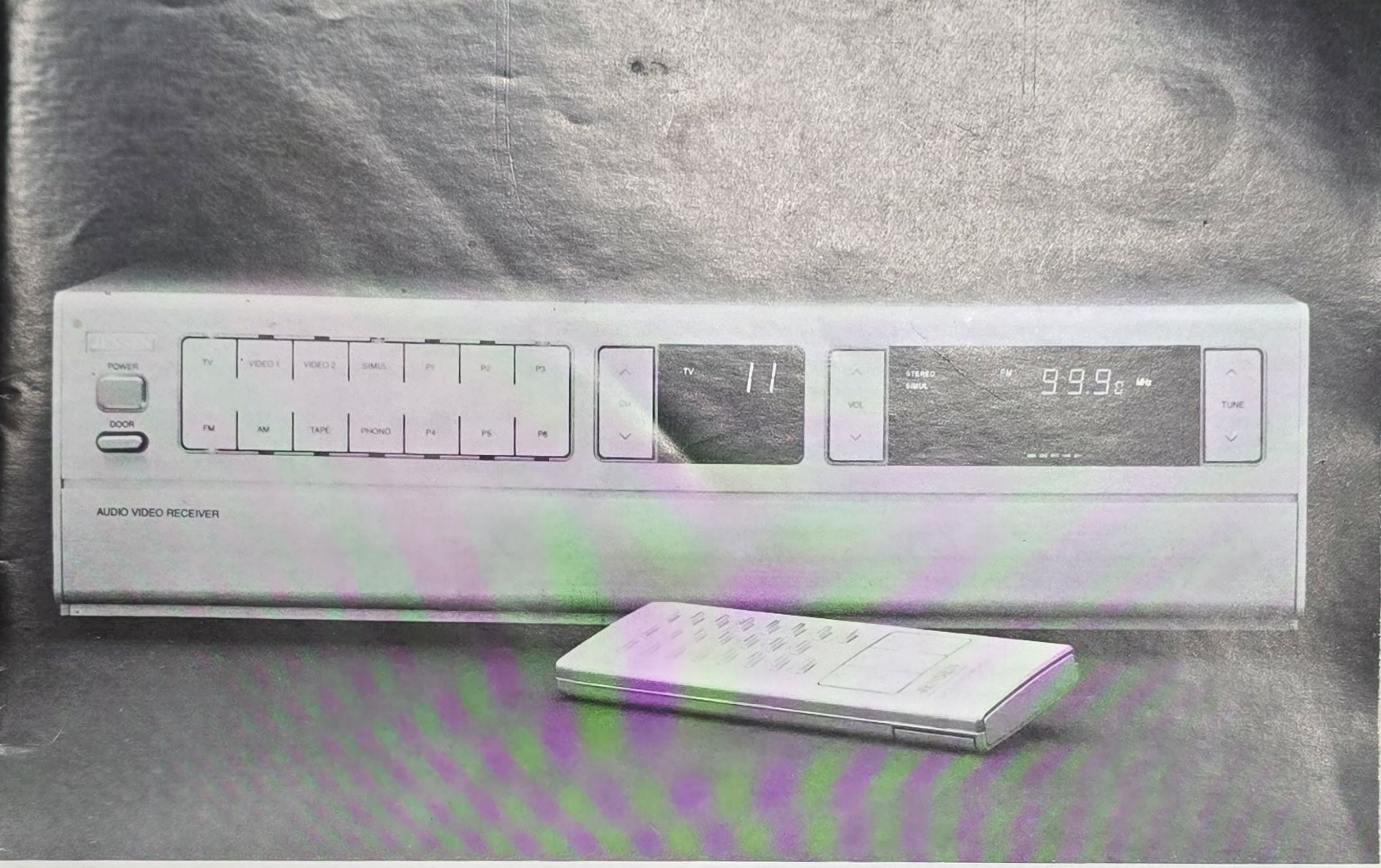

POWER
DOOR
TV
VIDEO 1
VIDEO 2
SIMUL
P1
P2
P3
FM
AM
TAPE
PHONO
P4
P5
P6
CH
TV
11
VOL
STEREO
SIMUL
FM
99.9
MHz
TUNE
AUDIO VIDEO RECEIVER

JENSEN®

AUDIO+VIDEO RECEIVER AVS-1500

APPLICATIONS MANUAL

FOR CUSTOMER USE:
Write in the serial number located on the rear of the receiver. Keep this information for future reference.

Model No. AVS-1500

Serial No.

AUDIO+VIDEO™ COMPONENTS

AUDIO+VIDEO™ COMPONENTS

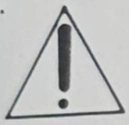
IMPORTANT SAFEGUARDS

THIS SECTION CONTAINS NECESSARY SAFETY INFORMATION.

Read all safety instructions

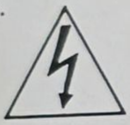
1. Save these instructions for later use.
2. Follow all warnings and instructions marked on the AVS-1500.

3.



This symbol is on the AVS-1500. This symbol means that the applications manual (this booklet) has important information about how to operate, maintain, and get service for the AVS-1500.

4.



This symbol is on the AVS-1500. This symbol means that there is high voltage inside the cabinet of the AVS-1500. The voltage is not insulated—do not open the cabinet because of the risk of dangerous electric shock.

CLEANING

5. Unplug the AVS-1500 from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.

LOCATING

6. Do not place the AVS-1500 on an unstable cart, stand, or table.

7. Slots and openings in the cabinet are for ventilation. They protect the AVS-1500 from overheating. Do not block or cover the openings. If you build-in a place for the AVS-1500, for example into a bookshelf, be sure you allow for ventilation. (Leave at least 1 inch on each side, at least 1⅝ inches on top, and an open front or back or at least 40 square inches of openings.)

8. Do not use near water, for example, near bathtub, washbowl, kitchen sink or laundry tub, in a wet basement, or near a swimming pool, etc.

POWER

9. Use only with 120 volts, 60 Hz AC. If you are not sure of the type of power supplied to your home, consult your dealer or local power company.

10. The AVS-1500 comes with a polarized plug. A polarized plug has one blade wider than the other. This plug will only fit into an outlet one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, turn it over and try again. If you still cannot fully insert it, contact your electrician to replace your outlet. Do not defeat the safety purpose of the polarized plug.

11. Do not rest anything on the power cord. Do not put the AVS-1500 where people will walk on the cord.

12. For added protection for the AVS-1500 during a lightning storm, or when it is not going to be used for over a couple of weeks, unplug it. That will avoid damage from lightning and powerline surges.

13. Do not overload wall outlets and extension cords. It can cause a fire or electric shock.

14. Do not try to service the AVS-1500 yourself. There are no user serviceable parts inside. Opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

15. Unplug the AVS-1500 and get qualified service when:
a. The power cord or plug is damaged or frayed.
b. Liquid has been spilled, or objects have fallen into the AVS-1500.
c. The AVS-1500 has been exposed to rain or water.
d. The AVS-1500 does not operate normally by following these instructions. Adjust only those controls that are covered in this manual. Improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the AVS-1500 to normal operation.
e. The AVS-1500 has been dropped or the cabinet has been damaged.
f. The AVS-1500 shows a distinct change in performance.

16. When you need parts, use Jensen replacement parts, or substitutions approved by Jensen. Substitute parts that don't have the right characteristics may not work, or can cause a fire or electric shock. For qualified service we suggest using an authorized Jensen Audio + Video Service Station.

17. After servicing the AVS-1500 ask the service technician to do routine safety checks to be sure that the AVS-1500 is safe to use.

OUTDOOR ANTENNA GROUNDING

18. If an outside antenna or cable system is connected to the AVS-1500, be sure the antenna or cable system is grounded. Grounding gives you some protection against voltage surges and built-up static charges. (See section 810 of the National Electrical Code, ANSI/NFPA No. 70-1981, or consult your dealer.)

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE.

This Audio + Video Receiver should be used with 120 V, 60 Hz AC only:

CAUTION: To prevent electric shocks and fire hazards, do NOT use any other power sources.

CAUTION:

TO PREVENT ELECTRIC SHOCK, DO NOT OPEN THE CABINET. NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

TO PREVENT ELECTRIC SHOCK DO NOT USE THIS POLARIZED PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

JENSEN SOUND LABORATORIES
an ESMARK Company
4136 North United Parkway
Schiller Park, Illinois 60176
(312) 671-5680

If you have any questions about operating or installation you can write or call Jensen toll free at (800) 323-0221.
In Illinois call (312) 671-5680.

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Division of International Jensen Incorporated

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Division of International Jensen Incorporated

THE NAME AND NUMBER OF EACH BUTTON, SWITCH, CONNECTION, LIGHT AND CONTROL IS THE SAME WHENEVER IT IS USED IN THIS BOOK. (FOR EXAMPLE POWER button 1)

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PART 3 LOOKING THINGS UP

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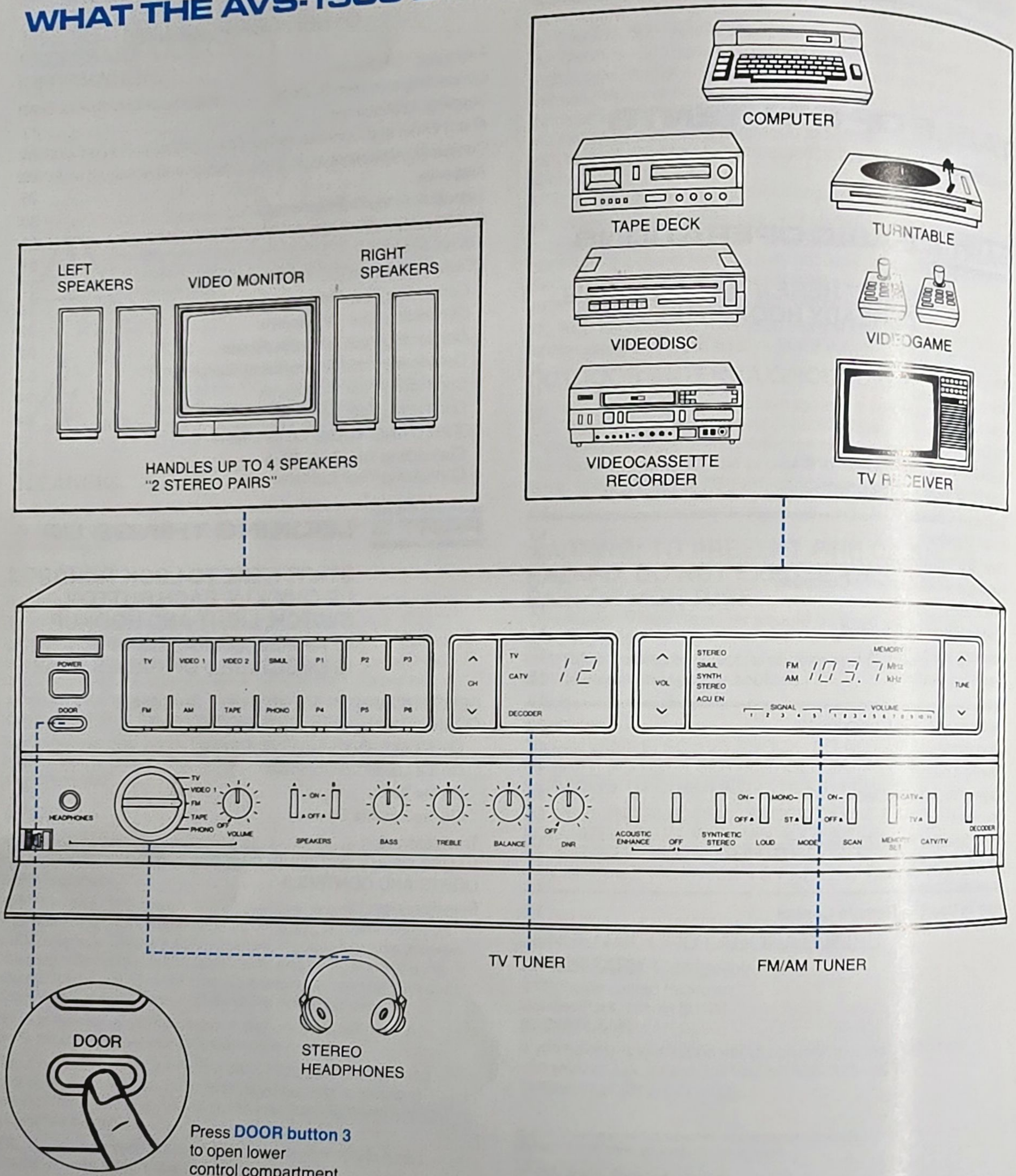
PART 1 BASIC OPERATIONS

WHAT THE AVS-1500 DOES:


LEFT SPEAKERS
VIDEO MONITOR
RIGHT SPEAKERS
HANDLES UP TO 4 SPEAKERS "2 STEREO PAIRS"
COMPUTER
TAPE DECK
TURNTABLE
VIDEODISC
VIDEOGAME
VIDEOCASSETTE RECORDER
TV RECEIVER
POWER
DOOR
TV
VIDEO 1
VIDEO 2
SIMUL
P1
P2
P3
FM
AM
TAPE
PHONO
P4
P5
P6
CH
TV
CATV
12
DECODER
VOL
STEREO
SIMUL
SYNTH
STEREO
ACU EN
FM
AM
103.7
MHz
kHz
MEMORY
SIGNAL
VOLUME
TUNE
HEADPHONES
TV
VIDEO 1
FM
TAPE
PHONO
OFF
VOLUME
ON
OFF
SPEAKERS
BASS
TREBLE
BALANCE
OFF
DNR
ACOUSTIC ENHANCE
OFF
SYNTHETIC STEREO
ON
OFF
LOUD
MONO
ST
MODE
ON
OFF
SCAN
MEMORY SET
CATV
TV
CATV/TV
DECODER
TV TUNER
FM/AM TUNER
STEREO HEADPHONES
DOOR

Press **DOOR button 3**
to open lower
control compartment

The AVS-1500 is the heart and brain of your home audio and video system. The AVS-1500 combines four functions in one. It is a video tuner, AM/FM tuner, 50-watt per channel integrated amplifier, and a switcher and signal processor—WITH STEREO CAPABILITY.

Combined with your TV receiver, tape deck, phonograph, speakers, video monitor, videocassette recorder, and other equipment such as a videodisc player, computer, video game, etc., it becomes the heart and brain of a versatile, easy to operate, audio and video control center.

TV TUNER

The **TV TUNER** receives television signals either broadcast or CATV (cable). The tuner lets you operate a video monitor, such as the high quality Jensen AVS-3250 or AVS-3190, or a projection monitor, and it can also be connected to your television set.

CABLE READY

The TV tuner receives 133 television channels. Those include: VHF channels 2-13, UHF channels 14-83, CATV mid-band A5-A1 and A-I, CATV super-band J-W, and CATV hyper-band AA-WW. When you press **CATV/TV button 67** so **CATV display light 34** is lit, the TV tuner automatically assigns the CATV (cable) channels to numbers 2-64.

FM/AM TUNER

The **FM/AM tuner** lets you receive FM or AM broadcast signals. It puts high quality broadcast reception into the AUDIO + VIDEO SYSTEM. The FM tuner makes it easy for you to integrate stereo simulcasts.

AMPLIFIER

The **50-watt per channel stereo amplifier** amplifies audio signals with low distortion, stereo high fidelity, full range of sound and uniform response. It fills the room with a full complement of sound from the audio part of a video experience. You get more enjoyment from your videodisc player or stereo videocassette recorder. You can play any turntable with a magnetic cartridge (moving magnet cartridge). You get better sound than normally available from a TV receiver. You can use the amplifier for your tape deck or turntable. You can connect two stereo pairs of speakers (up to 4 speakers) to the AVS-1500.

SWITCHER

The **switcher** ties all the things the AVS-1500 can do together and lets you add more, such as: videocassette recorder, computer, videodisc, CATV (cable), video games, broadcast pay TV, turntable, tape deck, and extra speakers.

You can conveniently switch from one function or device to another by just pressing a button.

SIGNAL PROCESSOR

The **signal processor** gives you the ability to enhance and tailor the sound to your individual taste. You can create simulated stereo sound from a mono signal. You can create the ambience of a concert hall with acoustic enhance. You can reduce unwanted noise with variable DNR™ (Dynamic Noise Reduction)*. You can compensate for the frequency response of the human ear at low volume levels with the "loud" feature. You can adjust the standard audio controls: bass, treble and balance.

HEADPHONES

The **headphone control** system does more than an ordinary receiver's headphones. A separate amplifier and control lets you enjoy most of the audio functions with the headphones while others are listening to other audio sources over the speakers.

---

*DNR is a registered trademark of National Semiconductor

USING THE AVS-1500

THINK OF THE AVS-1500 AS AN INPUT SELECTOR

(An input is what you want to play, for example FM radio, tape deck, or television)

AUDIO INPUTS

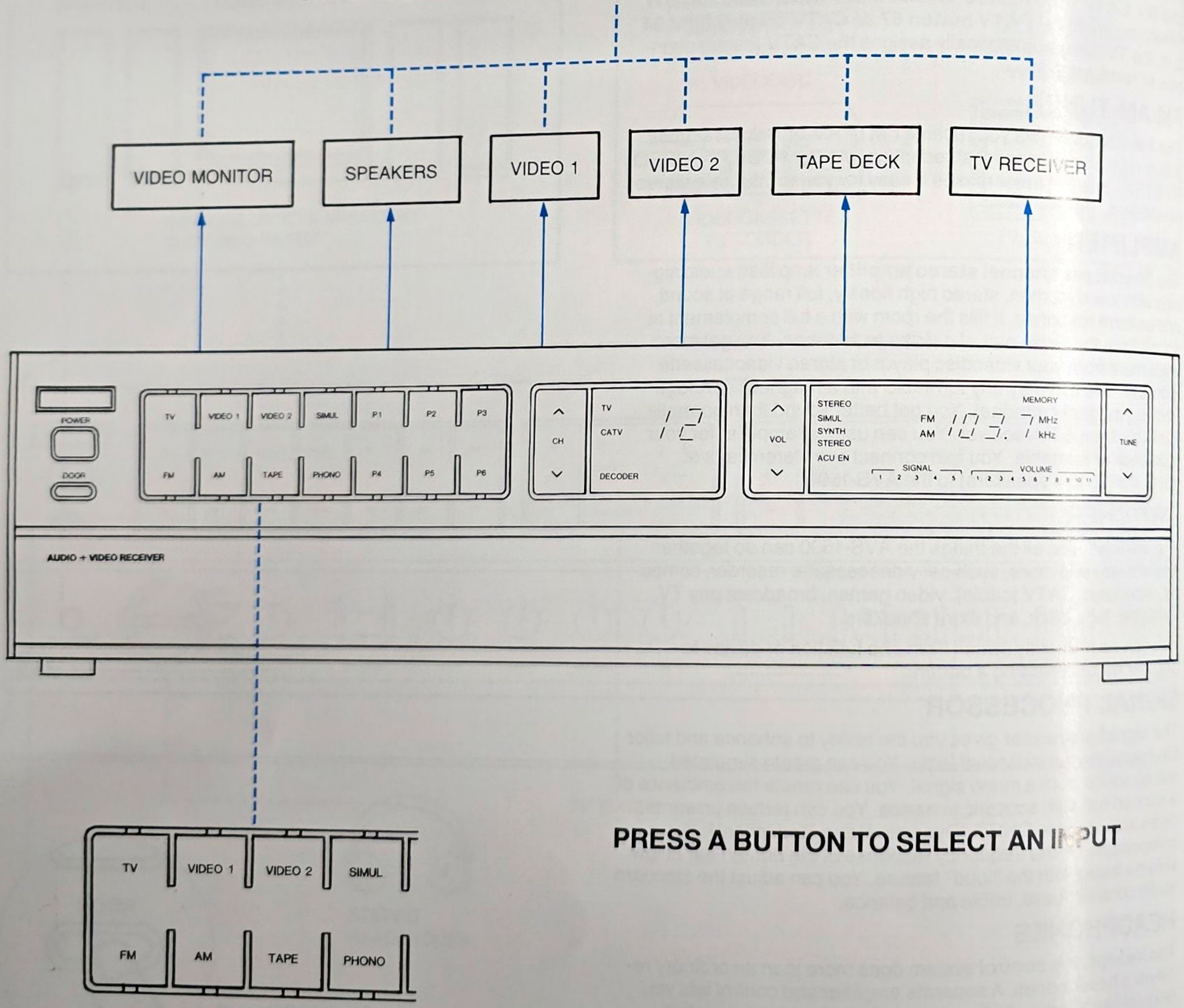
FM/AM, TAPE, or PHONO buttons select the built-in FM tuner, built-in AM tuner, your tape deck or your phonograph as the audio source. The input you select is played over the speakers connected to the AVS-1500. The input is also available at the audio outputs. You can record from the TAPE outputs, from VIDEO 1 audio outputs, or from VIDEO 2 audio outputs.

AUDIO + VIDEO INPUTS

TV, VIDEO 1, and VIDEO 2 buttons select video inputs. The sound and picture from the selected input is available at all other outputs. You can record audio using the outputs to your tape deck. You can record video and audio with a video recorder connected to VIDEO 1 outputs.

For example, if VIDEO 2 is the selected input: A connected monitor will show the picture. A connected TV receiver will show the input picture and play the sound. Connected speakers will play the sound. You can record the video and audio with a video recorder at VIDEO 1.

INPUT SELECTED IS AVAILABLE AT ALL OUTPUTS


VIDEO MONITOR
SPEAKERS
VIDEO 1
VIDEO 2
TAPE DECK
TV RECEIVER
POWER
DOOR
TV
VIDEO 1
VIDEO 2
SIMUL
P1
P2
P3
FM
AM
TAPE
PHONO
P4
P5
P6
CH
TV
CATV
12
DECODER
VOL
STEREO
SIMUL
SYNTH
STEREO
ACU EN
MEMORY
FM
AM
103.7
MHz
kHz
SIGNAL
VOLUME
TUNE
AUDIO + VIDEO RECEIVER
TV
VIDEO 1
VIDEO 2
SIMUL
FM
AM
TAPE
PHONO

PRESS A BUTTON TO SELECT AN INPUT

A. TURN IT ON

Press the **POWER button 1** of the AVS-1500 to turn it on. When on the **POWER indicator light 2** around the power button is lit. Press again to turn off. The power can also be turned on and off using the **Power button R11** on the remote control unit.

When the power is turned on the last thing that was on, monitor, FM/AM, phono, etc., will come back on. After you turn the AVS-1500 off it "remembers" the last thing you had on. That input comes on when you turn the power back on. It comes on to the same station or channel, and with the same volume setting it had when turned off.

NOTE: *If the AVS-1500 is unplugged or the electricity to it is turned off it will still "remember" for a day or more.*

B. PRESS DOOR button

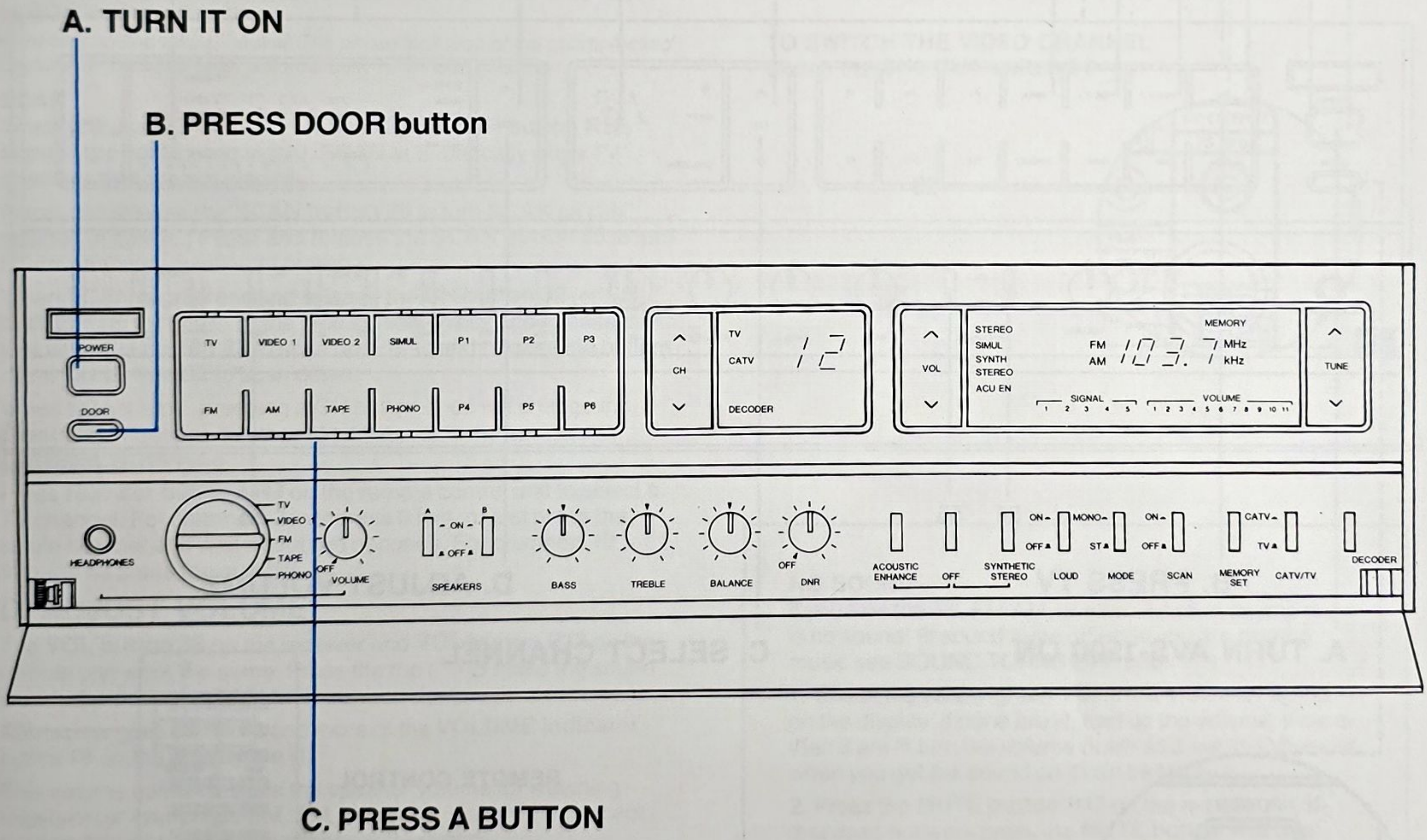
Press **Door button 3** to open the lower control compartment. Controls that are used less often are here.

C. PRESS A BUTTON

Think of the AVS-1500 as an input selector. When you press a button you select a video and/or audio input. The AVS-1500 makes that input available to its outputs.

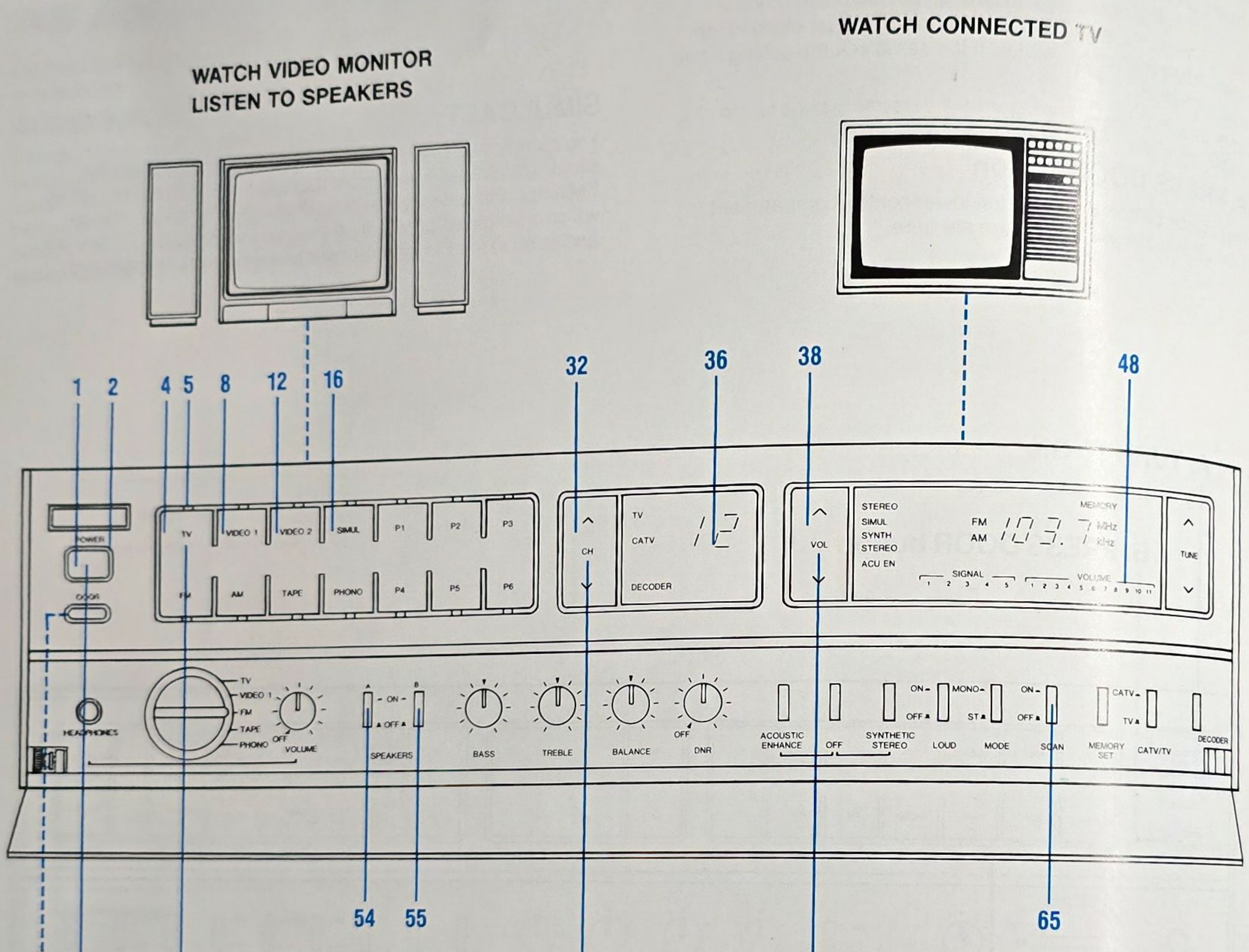
SIMULCAST

You can choose different inputs for audio and video with the simulcast feature. In simulcast the audio will be from the built-in FM tuner. The video will be from the built-in TV tuner. You can watch a simulcast program on your video monitor or TV receiver and listen to the FM stereo over the speakers or headphones.


A. TURN IT ON
B. PRESS DOOR button
C. PRESS A BUTTON
POWER
DOOR
TV
VIDEO 1
VIDEO 2
SIMUL
P1
P2
P3
FM
AM
TAPE
PHONO
P4
P5
P6
CH
TV
CATV
12
DECODER
VOL
STEREO
SIMUL
SYNTH
STEREO
ACU EN
MEMORY
FM
AM
103.7
MHz
kHz
SIGNAL
VOLUME
TUNE
HEADPHONES
TV
VIDEO
FM
TAPE
PHONO
OFF
VOLUME
ON
OFF
SPEAKERS
BASS
TREBLE
BALANCE
OFF
DNR
ACOUSTIC ENHANCE
OFF
SYNTHETIC STEREO
LOUD
MONO
ST
MODE
SCAN
MEMORY SET
CATV
TV
CATV/TV
DECODER

HOW TO WATCH TV

NOTE: See page 22 for how to connect a Jensen monitor and speakers and page 32 for how to connect a TV receiver.

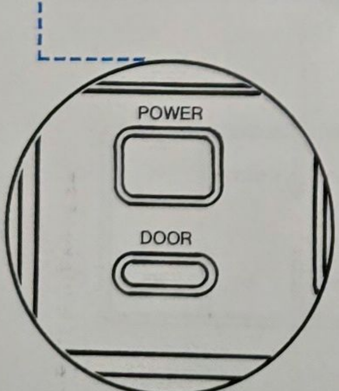

WATCH VIDEO MONITOR
LISTEN TO SPEAKERS
WATCH CONNECTED TV
1
2
4
5
8
12
16
32
36
38
48
POWER
DOOR
TV
VIDEO 1
VIDEO 2
SIMUL
P1
P2
P3
FM
AM
TAPE
PHONO
P4
P5
P6
CH
TV
CATV
DECODER
12
VOL
STEREO
SIMUL
SYNTH
STEREO
ACU EN
FM
AM
103.7
MHz
kHz
MEMORY
SIGNAL
VOLUME
TUNE
HEADPHONES
PHONO
OFF
VOLUME
A
B
ON
OFF
SPEAKERS
BASS
TREBLE
BALANCE
OFF
DNR
ACOUSTIC ENHANCE
OFF
SYNTHETIC STEREO
ON
OFF
LOUD
MONO
ST
MODE
SCAN
MEMORY SET
CATV
TV
CATV/TV
DECODER
54
55
65

B. PRESS TV

D. ADJUST VOLUME

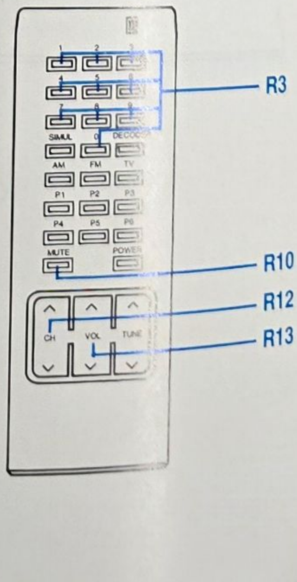
A. TURN AVS-1500 ON

C. SELECT CHANNEL



Press **DOOR button 3** to open lower control compartment

REMOTE CONTROL


1
2
3
4
5
6
7
8
9
SIMUL
0
DECODER
AM
FM
TV
P1
P2
P3
P4
P5
P6
MUTE
POWER
CH
VOL
TUNE
R3
R10
R12
R13

A. TURN AVS-1500 ON

Press **POWER button 1** of the AVS-1500 to turn it on. **Power indicator light 2** will be lit.

B. PRESS TV

Press **TV button 4** to select the TV tuner as the signal source. Other things, radio, phonograph, etc., automatically turn off.

The **TV indicator light 5** above **TV button 4** will be lit. The channel number will light up at **Channel number 36.**

C. SELECT CHANNEL

There are three ways to select the television channel. **CH button 32,** on the AVS-1500, **CH button R12** on the remote control unit, and the **Number buttons R3** on the remote control unit. The **CH button 32** on the receiver and the **CH button R12** on the remote control unit work the same.

Press the top of either CH button (/\) to switch the TV to a higher channel number. Press and hold to keep changing channels. Press and release to move one channel at a time.

Press the bottom of either CH button (\/) to switch the TV to a lower channel number. Press and hold to keep changing channels. Press and release to move one channel at a time.

NOTES:

- *If you are using a TV receiver, set the connected TV receiver to YOUR VIDEO CHANNEL (3 or 4).*
- *There is no fine tuning control. The phase lock loop of the quartz-locked digitally synthesized tuner automatically tunes with precision.*

SCAN

When you use SCAN the **CH button 32** (and **CH button R12**) skips to the next strong signal. SCAN automatically skips TV channels that are not playing.

Press and release the **SCAN button 65** to turn SCAN on ("in" position of button.) Press and release the **SCAN button 65** to turn SCAN off ("out" position of button.)

When SCAN is on press and release the **CH button 32** (or **CH button R12**) to "scan" to the next station. Press and release the top of the **CH button 32** to scan up. Press and release the bottom of the **CH button 32** to scan down.

When SCAN is off, pressing a CH button once will change the channel number one number at a time.

NUMBER BUTTONS

Press **Number buttons R3** on the remote control unit to select a TV channel. For channels 2 to 9 press 0 first, or just press the single number and wait about two seconds. For channels 10 through 83 press the number.

D. ADJUST VOLUME

The **VOL button 38** on the receiver and **VOL button R13** on the remote unit work the same. Press the top (/\) to make the sound louder, the bottom (\/) to turn the sound down.

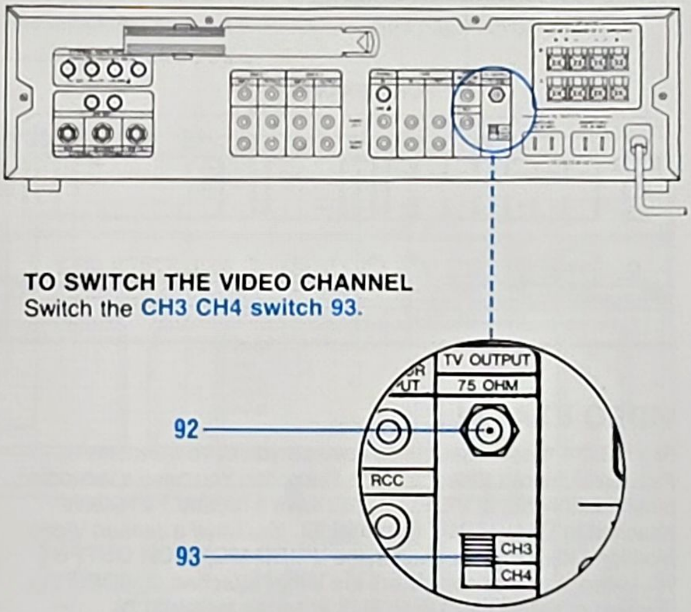
As volume goes up, more and more of the **VOLUME indicator lights 48** on the display are lit.

This volume control adjusts the speaker volume for watching television or listening to FM, AM, turntable . . . everything except the headphones, which have a separate control.

Press **MUTE button R10** on the remote unit to turn the sound off, press **MUTE button R10** again to turn the sound back on.

TO SET YOUR TV OUTPUT CHANNEL

The built-in RF converter in the AVS-1500 provides picture and sound on either channel 3 or 4. **TV OUTPUT terminal 92** is the RF output of the AVS-1500. The RF converter is turned on when **TV button 4, VIDEO 1 button 8, VIDEO 2 button 12** or **SIMUL button 16** are pressed. The channel is set to 3 at the factory. Use 3 or 4 whichever is *not* used for broadcast in your area.



TO SWITCH THE VIDEO CHANNEL
Switch the **CH3 CH4 switch 93.**

NO SOUND
If you turn the TV, FM/AM, or other function on and there is no sound: (if sound turns off while you are playing music see SOUND TURNS OFF page 17.)

1. Check the yellow-green **VOLUME indicator lights 48** on the display: if none are lit, turn up the volume; if more than 3 are lit turn the volume down so 3 are lit. Otherwise when you get the sound on it can be too loud.

2. Press the **MUTE button R10** on the remote unit. If that does not work press the **MUTE button R10** one more time to turn mute off.

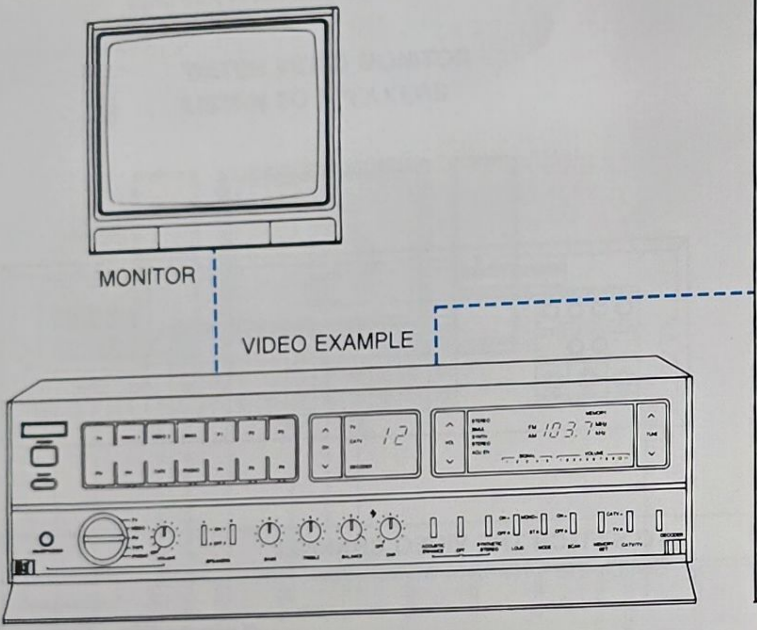
3. Check the speaker buttons in the lower control compartment of the AVS-1500. Push in to turn the speaker on. No sound is heard if both **SPEAKERS A button 54** and **SPEAKERS B button 55** are in the OFF (out) position.

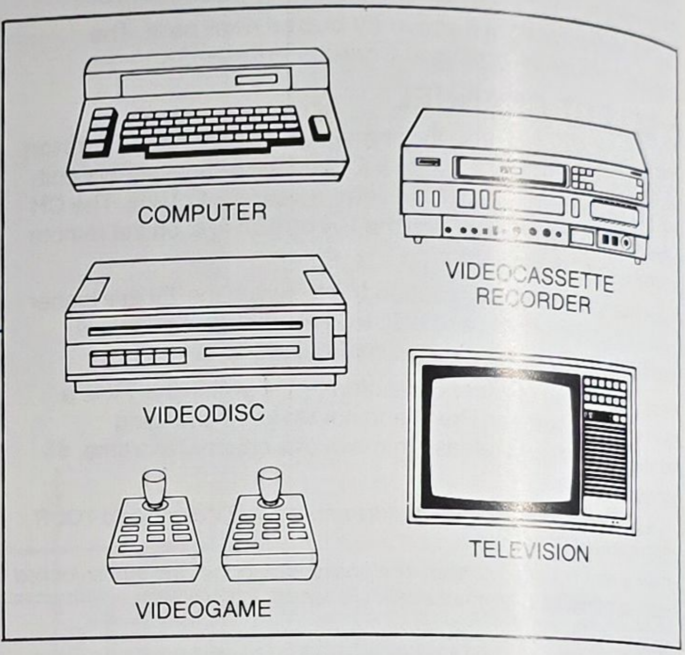
4. If there is still no sound, check speaker connections.

WATCHING VIDEO COMPONENTS

You can have two video devices attached to your AVS-1500, at VIDEO 1, and VIDEO 2 and also have a TV receiver and monitor attached.

***NOTE:** See page 22 for how to connect a Jensen monitor and speakers and page 32 for how to connect a TV receiver.*





VIDEO EXAMPLE

At VIDEO 1 these instructions assume you have a Jensen AVS-4400 Stereo Videocassette Recorder. You have a videodisc player connected at VIDEO 2. You have a regular TV receiver attached to **TV OUTPUT terminal 92** You have a Jensen Video Monitor AVS-3250 attached to the **VIDEO MONITOR OUTPUT 90** Videogames or computers are either attached at VIDEO 2 (instead of a videodisc) or to **AUX antenna terminal 78** depending on the output of the videogame or computer. You have a pair of speakers attached to speakers A.

TO PLAY A PRE-RECORDED CASSETTE

1. Turn on AVS-1500, press **POWER button 1**. Press **VIDEO 1 button 8. VIDEO 1 indicator light 9** will be lit.

2. Turn on your monitor. Turn on TV receiver, and set channel to YOUR VIDEO CHANNEL (3 or 4).

3. Turn on AVS-4400 videocassette recorder.

4. Play cassette in the AVS-4400.

- The recorded video will play on the monitor.
- The recorded audio will play on speakers A. Sound volume can be adjusted with **VOL button 38** or **VOL button R13** on the remote. (If no sound see page 9.)
- The recorded program will play on the TV receiver. Sound volume can be adjusted with the TV controls.

PLAYING A VIDEODISC

1. Turn AVS-1500 on. (Press **POWER button 1**)
2. Press **VIDEO 2 button 12**. (If the videodisc player is connected as in the video example.)
3. Play a videodisc.
The video and audio are available at all outputs of the AVS-1500. For example:
- The videodisc recording (video) will play on the monitor.
- The videodisc recording (audio) will play on the speakers.
- The videodisc recording will play on the TV receiver.

PLAYING A VIDEOGAME OR COMPUTER

Most videogames and computers have an RF output to connect to the antenna of a TV. The following assumes that your videogame or computer is connected to **AUX antenna terminal 78**

1. Turn AVS-1500 on. (Press **POWER button 1**.)

2. Press **TV button 4. TV indicator light 5** will be lit. **TV display light 33** should be lit. If not lit press **CATV/TV button 67**

3. Press **DECODER button 68. Decoder display light 35** will be lit.

4. Choose videogame or computer input channel with **CH button 32** or **CH button R12**. Channel number will be lit at **Channel number 36**.

5. Play videogames or operate computer. You can watch the monitor or TV receiver.

6. When through, press **DECODER button 68 DECODER display light 35** will turn off.

Sound effects can be heard over connected speakers, over headphones set to TV position, or with the connected TV.

ABOUT MONITORS
A monitor, such as an AVS-3250 has a video screen but no tuner or speakers. It shows the picture only. You need a separate TV tuner or other source of a video signal to use it, and a separate amplifier and speakers to hear the sound.

You can use the tuner on your videocassette recorder, or the built-in tuner of a Jensen AVS-1500 to watch broadcast TV programs on a monitor.

SIMULCASTS

Broadcast television sound is not in stereo. You can get stereo sound when a program is "simulcast". A simulcast program is broadcast by a stereo FM station at the same time that the TV station is broadcasting the program. Check your TV listing for simulcasts.

The simulcasts featured on the AVS-1500 lets you watch a program on TV while simultaneously hearing the sound in stereo from the FM simulcast station.

To Tune to a simulcast broadcast:

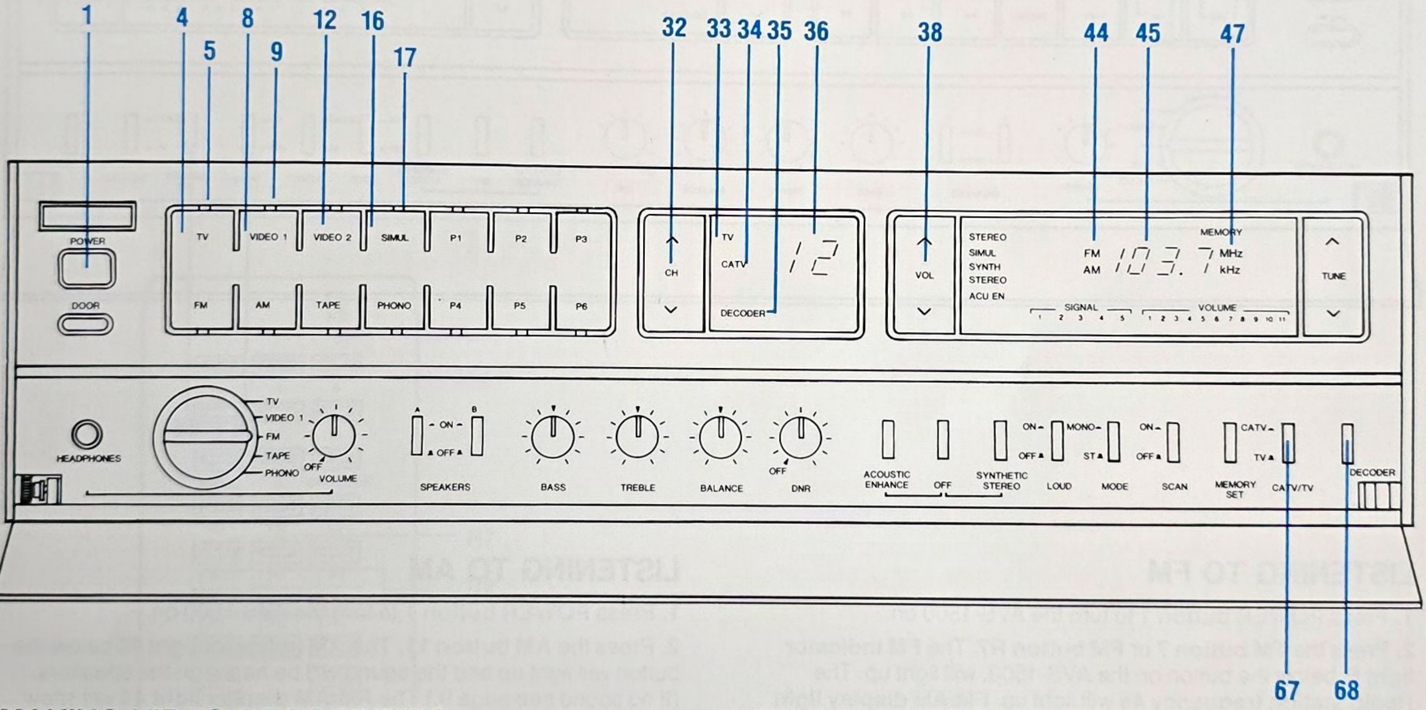
Press **SIMUL button 16. SIMUL indicator light 17** will be lit. The picture will come from the built-in television tuner. The sound will come from the built-in FM tuner. Tune the built-in television tuner to the TV simulcast station. Tune the FM tuner to the simulcast FM station.

NOTES:

- *TV* ***Channel number 36*** *will display the TV channel or CATV (cable) channel number.*
- *You can watch the picture on your video monitor.*
- *You can listen to stereo sound over speakers connected to the AVS-1500, or on headphones set to FM.*
- **FM display light 44** will be lit and **MHz—kHz 47** will have MHz lit.
- FM **Radio station frequency 45** will be displayed.
- You can watch the picture on your TV receiver. Turn on the connected TV receiver and set it to YOUR VIDEO CHANNEL (3 or 4).

Turn the TV receiver volume down.

- Some CATV (cable) companies provide simulcast broadcasting. Use simulcast as described above. (See page 30 for hookups.)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MAKING VIDEO RECORDINGS

Use the AVS-1500 as a signal source switching center to make video recordings.

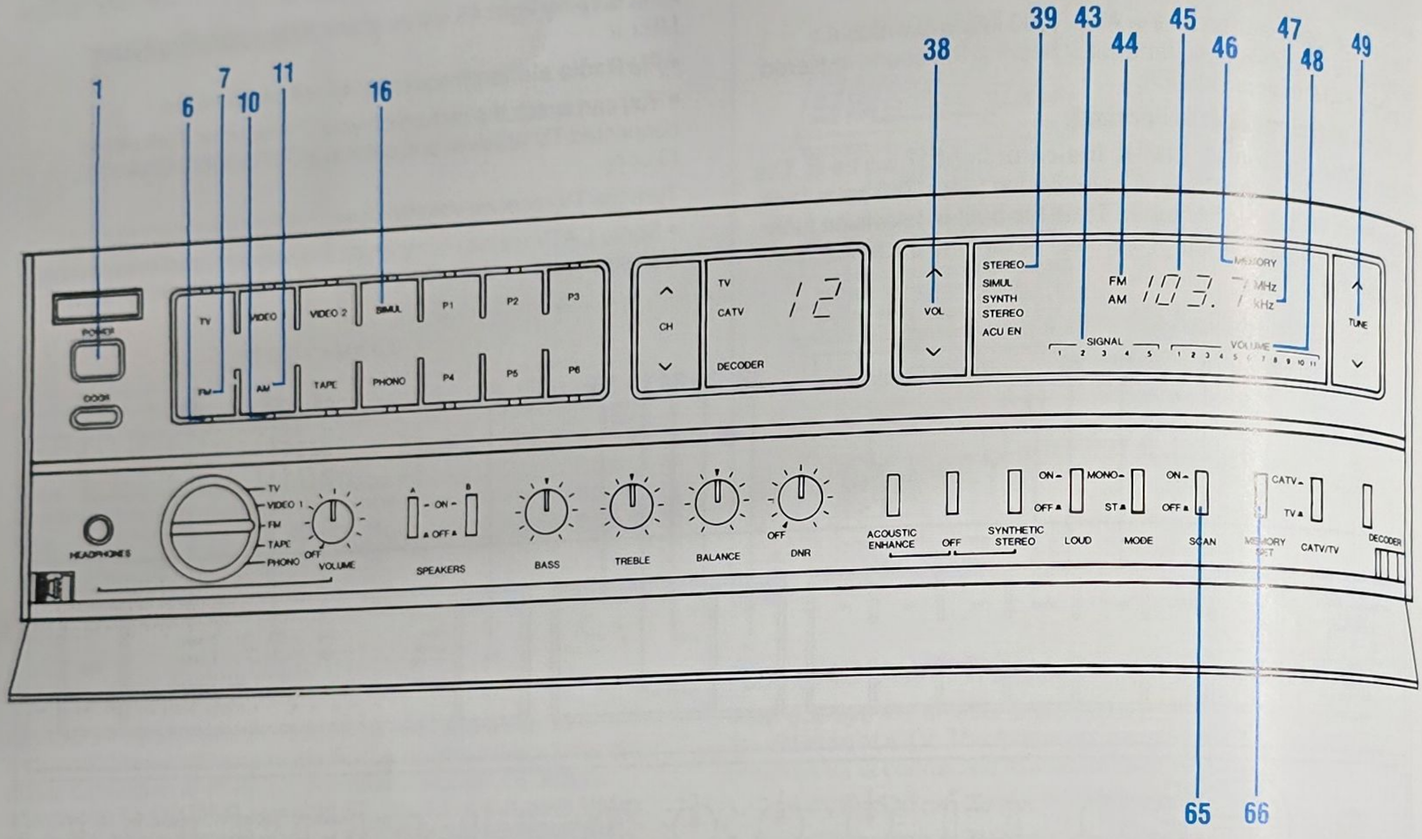
- Connect your videocassette recorder to VIDEO 1 outputs and inputs.
- Choose the input signal to be recorded with the AVS-1500. (Press **TV button 4, VIDEO button 12**, or **SIMUL button 16**.)
- Record with your videocassette recorder.
- Think of the AVS-1500 as a signal source "input selector". The buttons and controls of the AVS-1500 select the input signal. The audio and video signals from the selected input are available at all other audio and video outputs.
- The signals are available at VIDEO 1 outputs to be recorded on your videocassette recorder.
- Set the controls of your videocassette recorder to accept external video and audio input. (What the controls are called depends on the particular recorder, AUX input, video input, and camera are some possibilities.)
- Record as usual with the recorder.
- The video signal is available at the video monitor and TV receiver connected to the AVS-1500. You can use either unit to monitor the recording.
- The audio signal can be monitored using the TV receiver, speakers, or headphones connected to the AVS-1500.

MONO VIDEOCASSETTE RECORDERS

If you have a mono videocassette recorder you cannot record or playback videotape in stereo.

See page 33 for connecting a mono videocassette recorder to the AVS-1500. With those connections you can make audio and video recordings using the AVS-1500 as a signal source "input selector". Select the input signal using the buttons and controls of the AVS-1500. Set the controls of your videocassette recorder to accept external video and audio output. (What the controls are called depends on the particular recorder: AUX input, video input, and camera are some possibilities). Record as usual with the recorder. (Audio recording and playback will be mono.)

LISTENING TO FM OR AM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DNR
ACOUSTIC ENHANCE
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SYNTHETIC STEREO
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MONO
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OFF
SCAN
MEMORY SET
CATV
TV
CATV/TV
DECODER

LISTENING TO FM

1. Press **POWER button 1** to turn the AVS-1500 on.
2. Press the **FM button 7** or **FM button R7**. The **FM indicator light 6**, below the button on the AVS-1500, will light up. The **Radio station frequency 45** will light up. **FM/AM display light 44** FM will be lit. MHz will be lit at **MHz-kHz 47**. (If no sound see page 9.)
3. To change the station press the top of the **TUNE button 49** or **TUNE button R14** to tune up, the bottom of the button to tune down. More **SIGNAL indicator lights 43** are lit as the signal gets stronger. The **STEREO display light 39** lights up when you tune in an FM stereo signal.
   Press and hold **TUNE button 49** or **TUNE button R14** to tune up or down quickly. Press and release to change one step of 0.2 MHz at a time.

NOTE:

- *The FM band goes from 87.9 MHz to 107.9 MHz in odd steps of 0.2 MHz. Some FM stations do not advertise the exact frequency of their station. For example a station may advertise that it is "FM 100" when it is really 99.9 MHz or 100.1 MHz.*

4. Press the top of the **VOL button 38** or **VOL button R13** to make the sound louder. Press the bottom to turn the sound down.

As volume goes up, more and more of the yellow-green **VOLUME indicator lights 48** on the display are lit.

LISTENING TO AM

1. Press **POWER button 1** to turn the AVS-1500 on.
2. Press the **AM button 11**. The **AM indicator light 10** below the button will light up and the sound will be heard on the speakers. (If no sound see page 9.) The **FM/AM display light 44** will show AM. **MHz—kHz 47** will show kHz. The station frequency will be displayed at **Radio station frequency 45.**
3. To change the station press the top (/\) of the **TUNE button 49**, or **TUNE button R14** on the remote to tune up. Press the bottom (\/) to tune down. More **SIGNAL indicator lights 43** are lit as the signal gets stronger.

   Press and hold **TUNE button 49** or **TUNE button R14** to tune up or down quickly. Press and release to change one step of 10 kHz at a time.
4. Press the top (/\) of the **VOL button 38** or **VOL button R13** to make the sound louder. Press the bottom (\/) to turn the sound down. As volume goes up, more of the yellow-green **VOLUME indicator lights 48** on the display are lit.

Note: *Once the **AM button 11** is pressed AM will be indicated: the **FM/AM display light 44** will show AM, **MHz—kHz 47** will show kHz, and **Radio station frequency 4** will show the AM frequency. AM will stay indicated until either **FM button 7** or **SIMUL button 16** is pressed.*

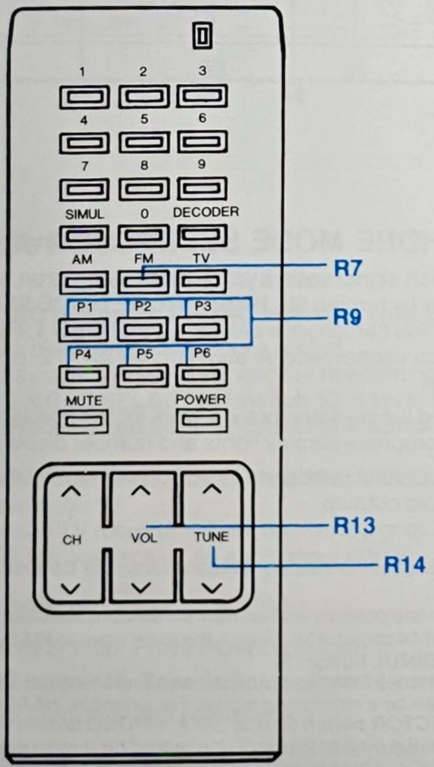
PRESETTING STATIONS

The **P1** through **P6 buttons** on the AVS-1500 and on the remote are for preset FM or AM stations. (6 FM and 6 AM).

1. Tune to a station that you want to preset.
2. Press and release **MEMORY SET button 66** in the lower control panel. The **MEMORY Indicator light 46** will be lit for about 5 seconds.
3. While the **MEMORY indicator light 46** is lit, press a **P button** either on the remote unit or on the receiver. That will store that station for later and erase whatever station was stored in that **P button** before.

Preset your favorite FM and AM radio stations and the FM stations that broadcast simulcast programs.

To tune that station later press the **P button** on the AVS-1500 or on the remote. If you press the **P button** that has no station number stored, the tuner will switch to the lowest frequency in the FM or AM band. The FM band goes from 87.9 MHz to 107.9 MHz in odd steps of 0.2.MHz. The AM band goes from 530 kHz to 1620 kHz in steps of 10.



SCAN

The SCAN feature lets you tune to a station easier. When SCAN is used the tuner skips to the next strong station.

Press and release the **SCAN button 65** to turn SCAN on ("in" position of button.) Press and release the **SCAN button 65** to turn SCAN off ("out" position of button).

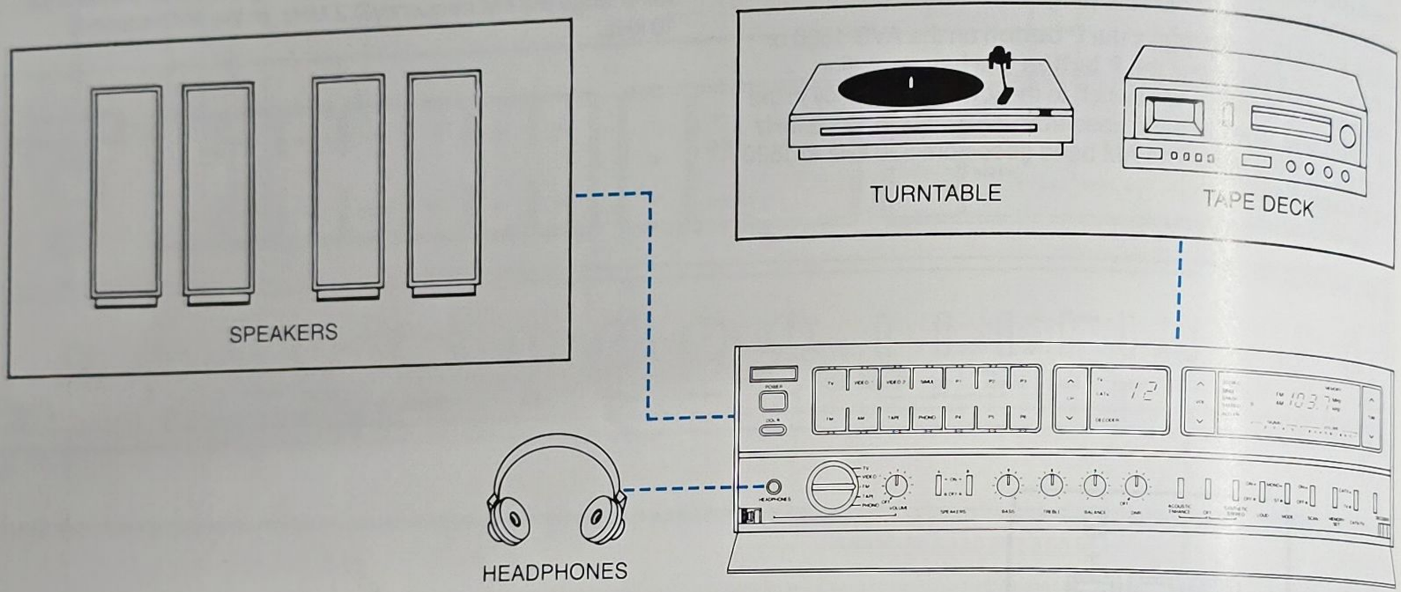
When SCAN is on, press and release the **TUNE button 49** or **TUNE button R14** to "scan" to the next strong station. Press and release the top of the **TUNE button 49** or **Tune button R14** to scan up. Press and release the bottom of the **TUNE button 49** or **TUNE button R14** to scan down.

With SCAN in the "out" position, pressing the TUNE button once will change the FM frequency 0.2 MHz, or the AM frequency 10 kHz.

LISTENING TO AUDIO COMPONENTS

Some possible VIDEO components attached to the AVS-1500 were described on page 10 as the VIDEO EXAMPLE. You can have all that attached and still attach your phonograph and/or tape deck to the AVS-1500.

AUDIO EXAMPLE



HEADPHONES

Plug stereo headphones into the **HEADPHONES jack 51.** Use headphones with a ¼″ stereo phone plug. Use headphones with 8 ohms, or more, impedance.

The headphone system of the AVS-1500 has a separate amplifier. That means you can listen to a different input on your headphones than is playing over the speakers. For example, you can listen to an FM radio station over the headphones while a television program is playing over the speakers.

The headphone system includes an amplifier, a separate **VOLUME control 53**, and a separate input source selector, the **HEADPHONE MODE SELECTOR switch 52.**

Turn the headphone **VOLUME control 53** clockwise to turn on the headphones and to adjust headphone volume. The main amplifier controls and special audio controls do not effect headphone sound.

YOU CAN USE HEADPHONES FOR:

- Private listening while others are watching and listening to something else on the AVS-1500.
- Watching and listening with the speakers off so you don't disturb others.
- Monitoring while making recordings, (for example, while recording using microphones connected to a videocassette recorder at VIDEO 1 or a tape deck connected to TAPE.) Headphone monitoring avoids feedback problems that may arise if you use speakers for monitoring.

HEADPHONE MODE SELECTOR switch 52

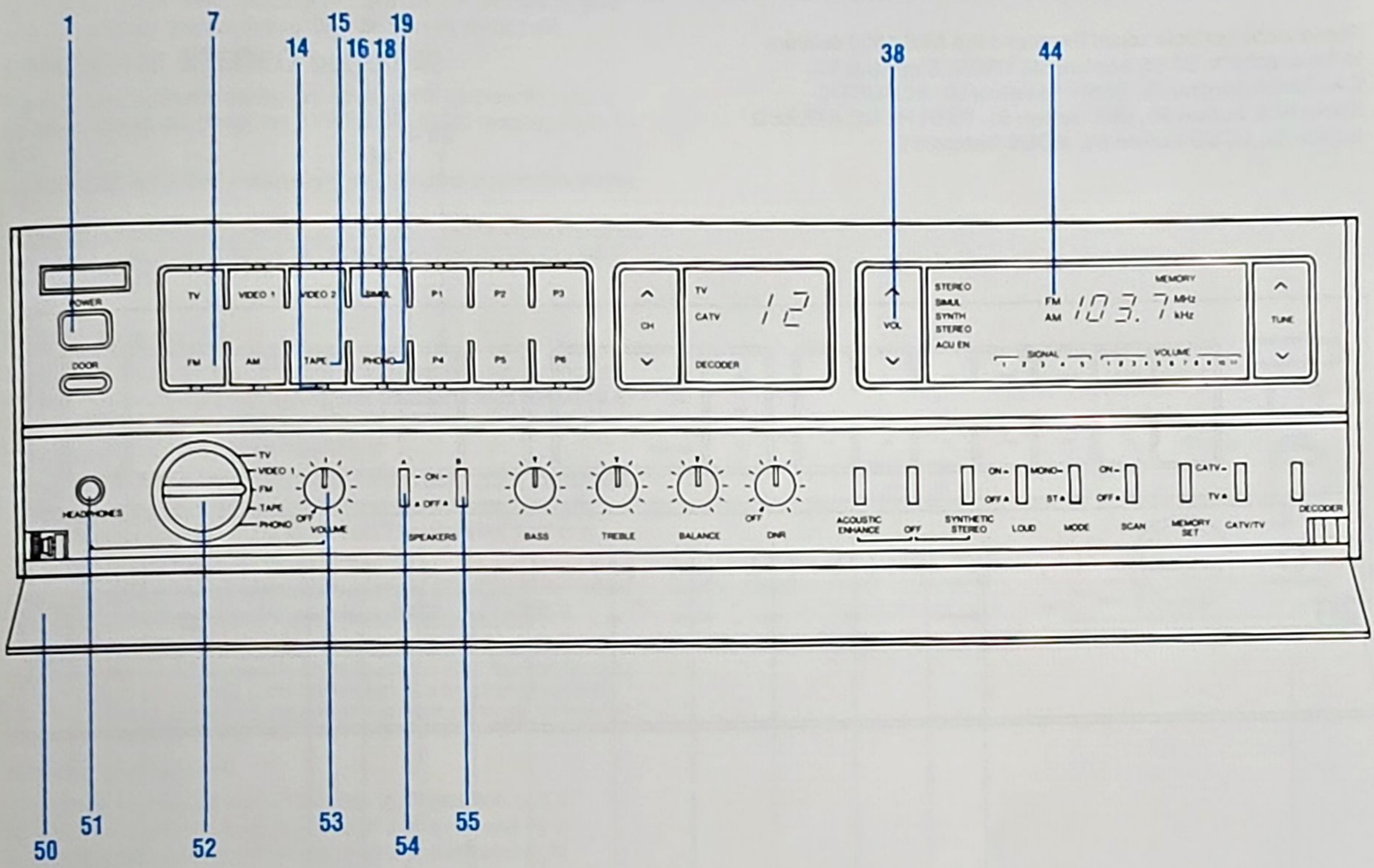
Choose which signal source you want to listen to on the headphones by turning the **HEADPHONE MODE SELECTOR switch 52.** You can choose between TV, VIDEO 1, FM, TAPE and PHONO. You cannot receive audio from VIDEO 2, or AM on the headphones.

Channel and tuning selectors will work for the headphones along with the appropriate display lights and number displays.

When you connect headphones you do not turn off the speakers, or other audio outputs.

NOTES:

- *With headphones connected you can't close the* ***Control panel door 50.***
- FM headphone position will not work if the main tuner is at AM (**FM/AM display light 44** shows AM). Switch the main tuner to FM by pressing **FM button 7** or **SIMUL button 16.**
- *The headphones listen to inputs, either internal or external. In some cases that can be a monitoring signal. For example:* ***HEADPHONE MODE SELECTOR switch 52*** *is at TAPE,* ***PHONO button 19*** *is pressed, your tape deck is on and you are tape recording a record that is playing on your turntable. Depending on the type of tape deck you may hear the record while the tape deck is actually tape recording. When not tape recording (if you press STOP on your tape deck) you hear nothing on the headphones.*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BASS
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BALANCE
DNR
ACOUSTIC ENHANCE
OFF
SYNTHETIC STEREO
LOUD
MODE
SCAN
MEMORY SET
CATV/TV
DECODER

PLAYING A RECORD

1. Turn on the AVS-1500, Press **POWER button 1**
2. Press **PHONO button 19. PHONO indicator light 18** will be lit.
3. Turn on your phonograph and play a record.

- Sound will play over the speakers and the headphones if **HEADPHONE MODE SELECTOR switch 52** is set to PHONO. and **SPEAKERS A button 54** or **SPEAKERS B button 55** is ON, "in" position.
- To adjust the volume press **VOL button 38** or **VOL button R13** (If no sound see page 9.)
- The monitor and TV receiver will not receive a signal.
- The TAPE DECK, will receive an audio input signal.

PLAYING YOUR TAPE DECK

1. Turn on the AVS-1500. Press **POWER button 1.**
2. Press **TAPE button 15. Tape indicator light 14** will be lit.
3. Turn on your tape deck and play a tape.

- Sound will play over the speakers A and B and headphones if **HEADPHONE MODE SELECTOR switch 52** is set to TAPE and **SPEAKERS A button 54** or **SPEAKERS B button 55** is ON, "in" position.
- To adjust the volume press **VOL button 38** or **VOL button R13.** (If no sound see page 9.)
- The monitor and TV receiver will not receive a signal.

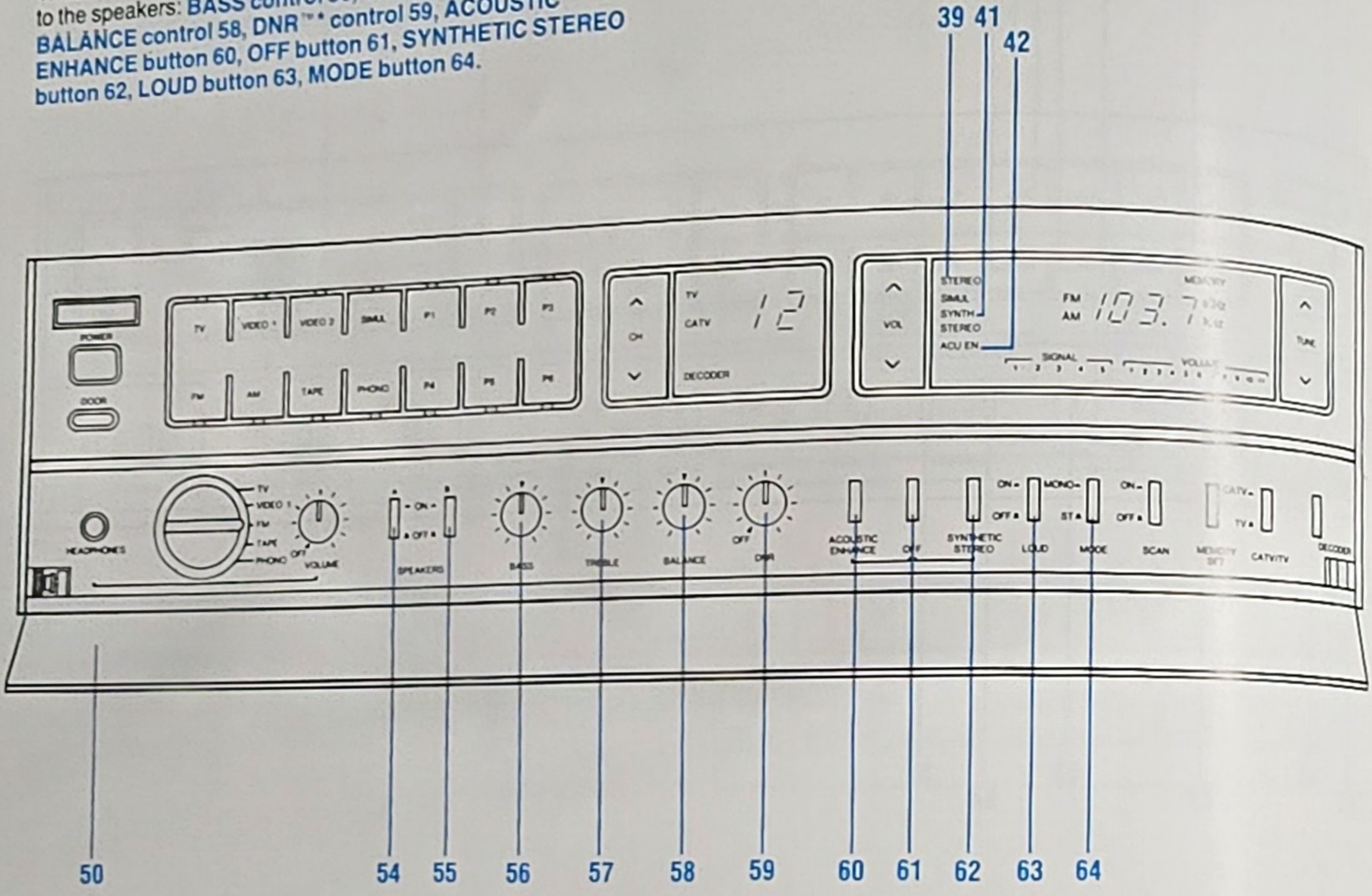
SPEAKERS

Press and release **SPEAKERS A button 54** to turn on audio to the "A" stereo pair of speakers. ON is "in" position of button. Press and release **SPEAKERS A button 54** to turn off audio to the "A" stereo pair of speakers. OFF is "out" position of button.

Press and release **SPEAKERS B button 55** to turn on audio to the "B" stereo pair of speakers. ON is "in" position of button. Press and release **SPEAKERS B button 55** to turn off audio to the "B" stereo pair of speakers. OFF is "out" position of button.

USING SPECIAL AUDIO CONTROLS

These audio controls adjust the sound the AVS-1500 delivers to the speakers: **BASS control 56, TREBLE control 57, BALANCE control 58, DNR™* control 59, ACOUSTIC ENHANCE button 60, OFF button 61, SYNTHETIC STEREO button 62, LOUD button 63, MODE button 64.**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BASS, TREBLE, BALANCE AND DNR™

Bass, treble and balance work as they usually do. All four controls can be turned when pushed in. You can make the controls pop out for easier turning by pushing in and releasing it. The longer control hits the compartment door. **Push in and release to make the control shorter before closing the lower control compartment door.**

BASS control 56

Turn clockwise to increase bass. Turn counterclockwise to decrease bass. Adjusting bass affects the low sound frequencies. Normal bass setting is at the arrow, straight up.

TREBLE control 57

Turn clockwise to increase treble. Turn counterclockwise to decrease treble. Adjusting treble affects the high sound frequencies. Normal setting is at the arrow, straight up.

BALANCE control 58

Turn clockwise to increase the volume of the right speaker(s), and decrease the volume of the left speaker(s). Turn counterclockwise to increase the volume of the left speaker(s), and decrease the volume of the right speaker(s).

Adjust the balance so the right speakers sound as loud as the left speakers. Normal position is at the arrow. Room acoustics affect balance. For example, a speaker near a solid wall will sound louder than a speaker near a window or open doorway.

DNR™* control 59

DNR™* stands for Dynamic Noise Reduction. DNR™ reduces "hiss". Some broadcast TV signals have noticeable audio noise. DNR can improve the sound from a tape or a TV or FM broadcast by reducing high frequency background noise.

Use only when there is objectionable hiss or noise over the speakers. The best way is to adjust DNR while playing a recording or program that has low volume and little high frequency sound. Turn clockwise to reduce hiss. DNR™ may reduce the relative loudness of some high frequencies. Don't turn more than you need to reduce noise. You can alter the sound of the tape or program you are listening to by overcontrol.

ACOUSTIC ENHANCE button 60

This is a special acoustic feature that allows you to "spread out" the sound. It simulates the ambience of a concert hall.

When acoustic enhance is on the **ACU EN display light 42** will be lit.

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*DNR is a registered trademark of National Semiconductor

You cannot have acoustic enhance and synthetic stereo on at the same time. If you press **ACOUSTIC ENHANCE button 60** you turn off synthetic stereo. Press **OFF button 61** to turn off.

SYNTHETIC STEREO button 62

Press to turn synthetic stereo on. Press **OFF button 61** to turn synthetic stereo off. When on **SYNTH STEREO display light 41** is lit.

SYNTHETIC STEREO makes any mono audio sound like stereo.

***NOTE:** You cannot have synthetic stereo and acoustic enhance on at the same time. If you press **SYNTHETIC STEREO button 62** you turn off acoustic enhance.*

LOUD button 63

The human ear changes its frequency response depending on volume. As volume is reduced the ear becomes less sensitive to bass (low) frequencies. The ear also becomes less sensitive to high frequencies, but not as much.

The AVS-1500 has a loudness feature (LOUD). LOUD automatically adjusts the frequency response at low volume levels to match the response of the human ear. The speaker sound is therefore more pleasing.

Press **LOUD button 63** and release to turn LOUD on, "in" position. Press **LOUD button 63** and release to turn LOUD off, "out" position.

***NOTE:** The term LOUD comes from the studies of Fletcher and Munson on the frequency response of the human ear as a function of volume. The LOUD feature makes low volume sound more pleasing, it does not adjust "loudness" (volume.)*

MODE button 64

The **MODE button 64** has a STereo, "out" position and a MONO, "in" position. In MONO sound to the left and right speakers is blended. In STereo sound to the left and right speakers is separate for stereo listening.

Normal position is STereo "out". Usually a mono source is already blended so you can hear it on both left and right.

The AVS-1500 FM tuner detects FM stereo signals. It automatically switches from mono to stereo and lights up the **STEREO display light 39.** If a stereo FM signal is weak and variable, the AVS-1500 may switch back and forth between mono and stereo. The **STEREO display light 39** turns on and off. Use MONO "in" position when the **STEREO display light 39** flickers.

Use in MONO position when you have only a single (mono) audio input (only one of a pair of audio input terminals is connected.)

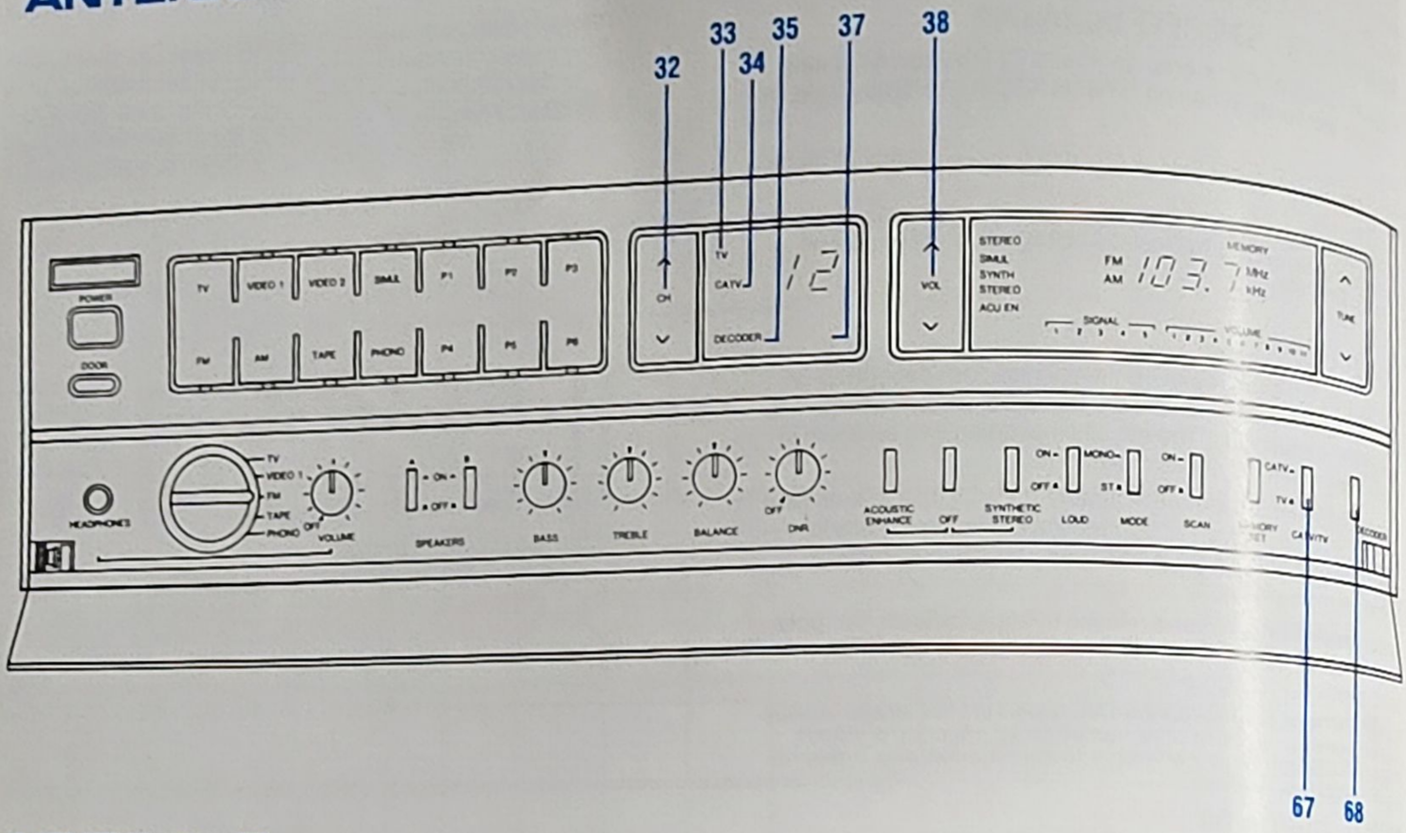
***NOTE:** **MODE button 64** can be used for speaker polarity check. See page 28*

SOUND TURNS OFF

The sound can turn off while you are playing music on the AVS-1500. It is possible to overpower the amplifier by combining: 1) loud volume level, 2) music with lots of bass, 3) using several controls that increase bass (**BASS control 56, ACOUSTIC ENHANCE button 60,** and **LOUD button 63.**)

What happens is the AVS-1500 automatically turns off. To turn it back on you have to reduce something. (LOUD is a good thing to reduce.)

ANTENNA CONTROLS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BASS
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ACOUSTIC ENHANCE
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SYNTHETIC STEREO
LOUD
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CATV
TV
DECODER

CATV/TV button 67

Press in and release for CATV(cable), press again and release to leave the button out for normal TV operations. **CATV/TV button 67** adjusts the built-in TV tuner to receive the full range of CATV (cable) frequencies.

When in TV (out) position, the TV tuner receives VHF and UHF broadcast stations. **TV display light 33** is lit.

When in CATV (in) position, the TV tuner automatically assigns the CATV (cable) channels to numbers 2-64. **CATV display light 34** is lit.

DECODER button 68

Some subscription television (pay TV) systems send a "scrambled" picture over CATV (cable) or broadcast it. To view these pictures you subscribe to the service. The company will provide you with a decoder to unscramble the picture.

CATV (cable) with decoder

The decoder feature on the AVS-1500 lets you switch the CATV (cable) so it goes through the decoder device provided by the subscription service at the push of a button. **CATV/TV button 67** should be in CATV (in) position. (See 6 on page 30 for hookups.)

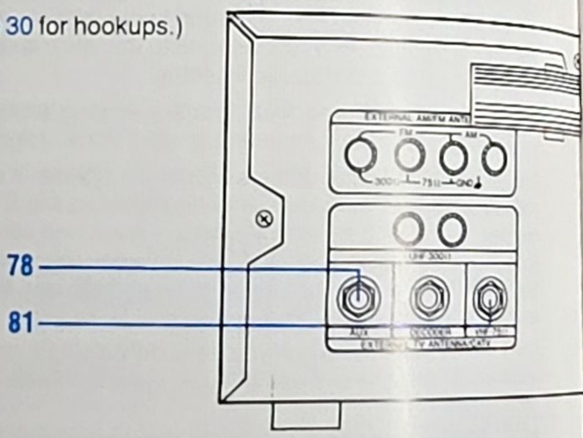
Press and release **DECODER button 68** to return to normal CATV (cable) operation.

Broadcast pay TV decoder

Broadcast pay TV uses a decoder or "unscrambler." The decoder needs an antenna input. Usually the broadcast pay TV company will provide the antenna.

The AVS-1500 DECODER feature lets you switch between CATV (cable) and a broadcast pay TV decoder, or between your VHF antenna and the broadcast pay TV decoder. The advantage of the AVS-1500's decoder feature is that you do the switching (press buttons) on the AVS-1500 and not on the separate decoder device. See 4 on page 30 or 7 on page 31 for hookups.

(See page 30 for hookups.)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81
EXTERNAL AM/FM ANTS
FM
AM
300Ω
75Ω
GND
UHF 300Ω
AUX
DECODER
VHF 75Ω
EXTERNAL TV ANTENNA/CATV

Using the decoder: Press **DECODER button 68**, so **DECODER display light 35** is lit. **CATV/TV button 67** should be in TV "out" position so **TV display light 33** is lit. Select the broadcast pay TV channel using **CH button 32.**

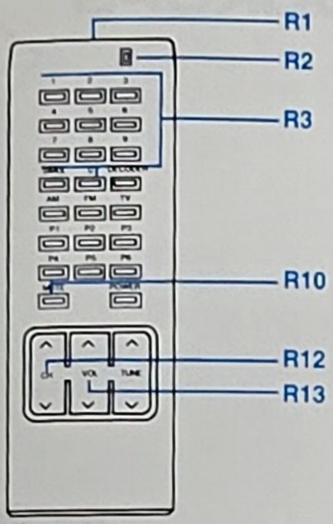
For other channels: Press **DECODER button 68** so **DECODER display light 35** is off. If you have CATV (cable) press **CATV/TV switch 67** to "in" position. **CATV display light 34** will be lit.

Computer or Videogame

Your computer or videogame may be connected to **Aux antenna terminal 78.** See page 34.

To use a computer or videogame at **AUX antenna terminal 78** turn on the AVS-1500 and the computer or videogame. Check that the **TV display light 33** is lit, if not lit, press **CATV/TV button 67.** Check that the **DECODER display light 35** is lit, if not lit, press **DECODER button 68.** Tune the TV tuner to the game or computer's TV channel (3 or 4) by pressing **CH button 32.**

HOW TO USE THE REMOTE CONTROL



- The remote control uses infrared-ray transmission.
- The main buttons on the AVS-1500 are repeated on the remote control.
- You can select TV channels by pressing the channel number.
- The remote control works from up to 10 m (about 32 feet) away.
- Point the **Infrared transmitting port R1** toward the AVS-1500's **Remote sensor 37.**
- Most buttons on the remote control work the same way as the buttons on the AVS-1500. Some buttons are only on the remote unit. See SPECIAL REMOTE BUTTONS, below, for how to use them.
- When you press a button on the remote control the **Indicator light R2** lights up and flickers to tell you that the unit is transmitting a signal.

SPECIAL REMOTE BUTTONS

You can select the TV channel with either **Number buttons R3** or **CH button R12.**

Number buttons R3

Press **Number buttons R3** to directly select the TV channel. For channels 2 to 9 press 0 first. The channel will change immediately. You can also press the single number and wait about two seconds. For channels 10 through 83 press the number.

NOTE: *With CATV (cable) you will use channels 2 through 64.*

CHANNEL button R12

Press to change the TV channel. Press top (∧) to change to a higher channel number. Press bottom (∨) to change to a lower channel number. Press and release to change one number at a time. Press and hold to change channels rapidly.

MUTE button R10

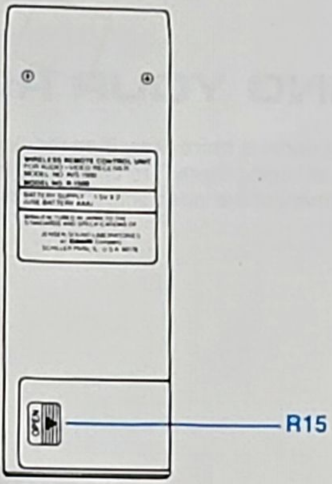
Press the **MUTE button R10** to turn off (mute) the sound. Video will continue. Press **MUTE button R10** again to turn the sound back on.

Any adjustment of the **VOL button 38** or **VOL button R13** will also turn the sound back on.

Avoid turning the AVS-1500 off while the sound is muted. When you, or someone else, later turns the AVS-1500 on you may have forgotton that the sound was muted. There are several reasons for no volume (see no sound page 9.)

NOTE:

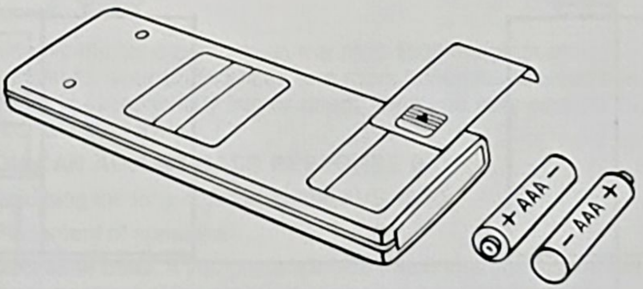
- *Don't press two buttons at the same time. It won't hurt anything but you may not get what you wanted.*



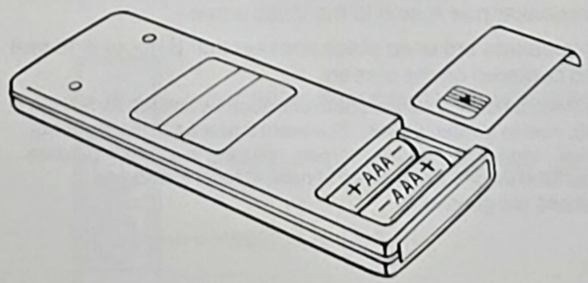
REPLACE BATTERIES when the **Indicator light R2** does not light up and flicker when a button on the remote is pressed.

INSTALLING THE BATTERIES

1. Slide the **Battery compartment R15** cover on the back of the remote in the direction of the arrow.



2. Insert two "AAA" size batteries in the correct directions into the battery compartment. Match + and − on the batteries with the + and − in the battery compartment.



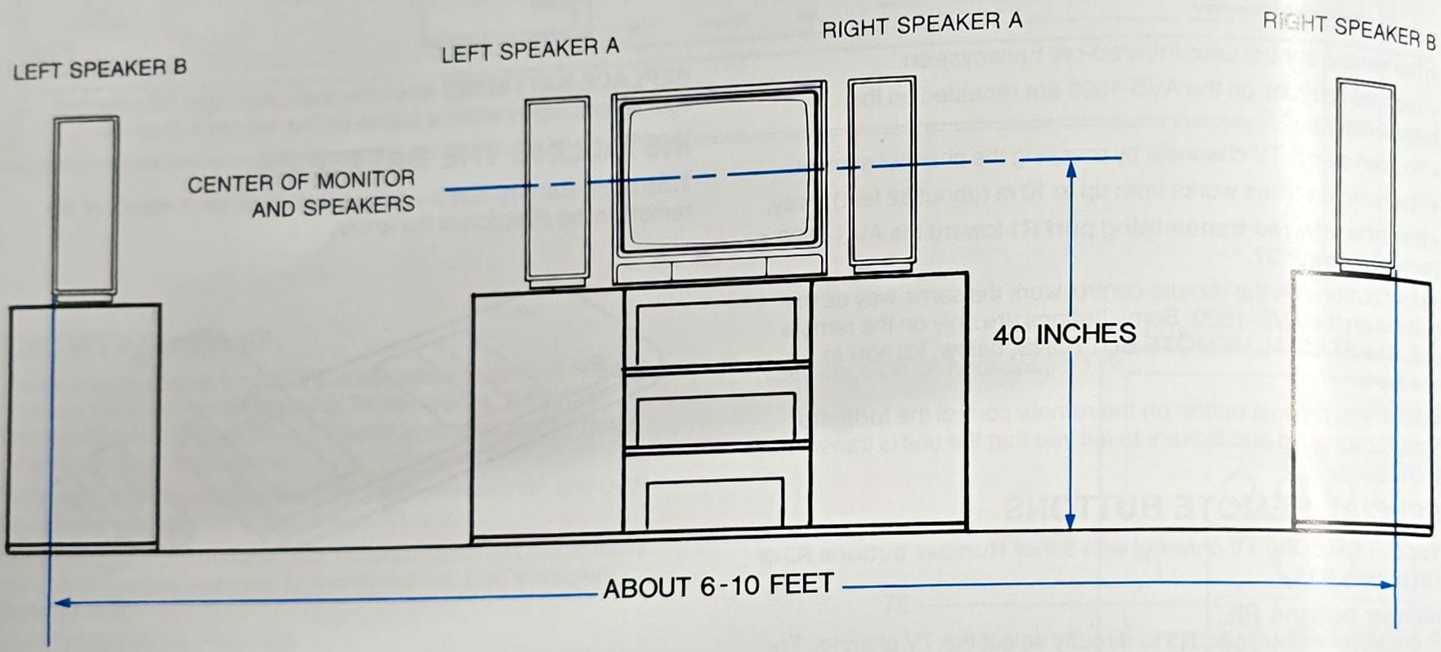
3. Replace the cover.

- If the **Indicator light R2** does not light up and flicker when one of the buttons is pressed check to see if the batteries are inserted in the right direction. If that does not solve the problem, replace the batteries.

PART 2 INSTALLATION AND HOOKUPS

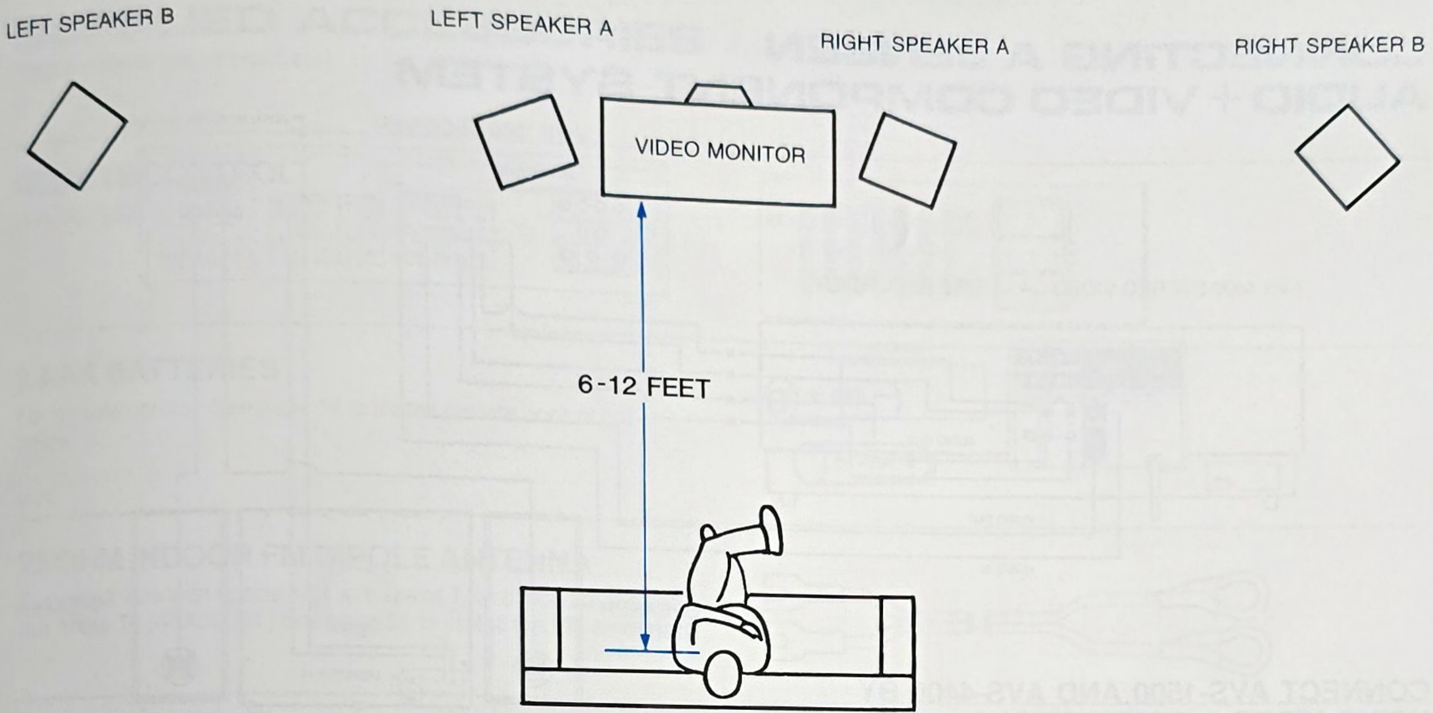
ARRANGING YOUR ROOM

Video viewing with stereo audio is more likely than regular television to give you a feeling of "being there." To enhance this feeling we suggest careful placement of the video screen and the speakers.


LEFT SPEAKER B
LEFT SPEAKER A
RIGHT SPEAKER A
RIGHT SPEAKER B
CENTER OF MONITOR AND SPEAKERS
40 INCHES
ABOUT 6-10 FEET

1. Put center of the Video Monitor or TV screen and center of speakers at eye and ear level—about 40" above the floor.
2. Place speaker pair A next to the video screen.*
3. If four speakers are used place speaker pair B about 6-10 feet apart and centered on the screen.

*Only use magnetically shielded speakers, such as Jensen AVS-5250 or AVS-5190, next to a video screen. Speakers that are not magnetically shielded will magnetize the video screen, resulting in off-color patches. Your Video Monitor or TV may need service to have the screen demagnetized (de-gaussed.)



IDEAL VIEWING LOCATION

The ideal viewing location is centered on the screen. Distance from the screen is your personal preference, usually 6 to 12 feet. Closer for fewer people, smaller screen size, and smaller room size.

The sound people like varies from person to person, so experiment. As a start try turning the speakers so they point directly toward the viewing location. Adjust stereo balance so the right and left speakers are the same loudness. (Right and left speakers are to the right and left of a person facing the speakers.)

When the program is mostly of a single person talking as in a news broadcast we suggest you use speakers A only.

When the program is a stereo simulcast or a movie recorded in stereo, use speakers B or both A and B.

As you experiment you may find you enjoy different speaker combinations for different kinds of programs. Also see Using Special Audio Controls page 16

MORE ABOUT SPEAKERS

- Don't place things, for example a large table or lamp, between your listening location and the speakers, especially the woofer and tweeter. High frequency sounds are easy to absorb or deflect. Objects between you and the speakers can change the tone of the sound, or reduce clarity and stereo imaging.
- Don't put a speaker on the same shelf or surface as your turntable. You might get acoustic feedback.
- Tonal balance depends on the liveness of the room. In acoustically "live" rooms the sound reverberates for a while before dying out. Rooms with a larger proportion of hard, reflecting surfaces are often live.
- In acoustically "dead" rooms the sound dies out too quickly. Rooms with a larger proportion of soft, absorbing, surfaces such as carpeting, upholstered furniture, drapes, etc., are often dead.
- Usually the tone controls on the AVS-1500 are enough to adjust for your preferences and room acoustics. Sometimes a room is exceptionally live or dead. Then you may want to try to correct the room.

YOU CAN ADJUST BASS RESPONSE BY:

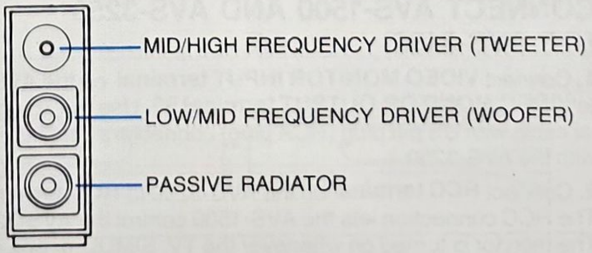
- Adjusting the tone controls on the AVS-1500
- Placement of speakers:

  Decrease bass. If you place speakers next to areas that let low tones pass out of the room you decrease bass. Walls of thin construction, doorways, and large areas of window glass let low tones out of the room.

  Increase bass by placing speakers next to a solid wall, or in a corner (next to two solid walls), or on the floor in a corner (next to three solid surfaces).

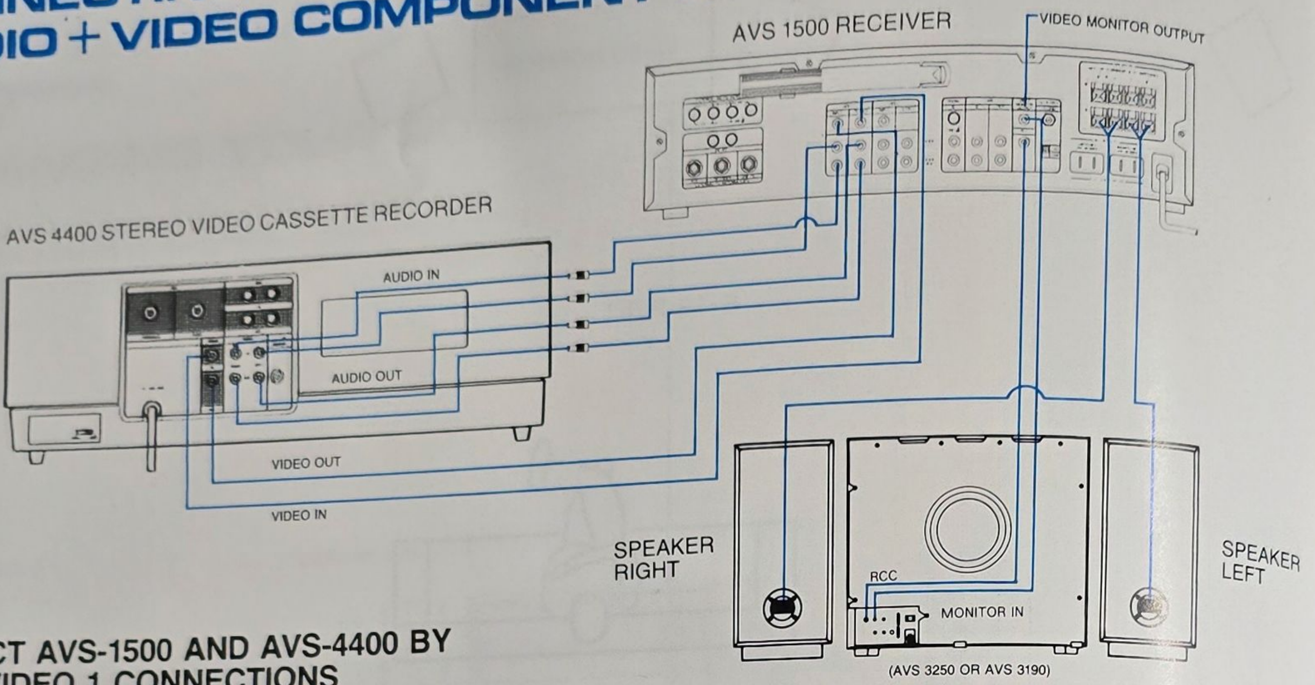
YOU CAN ADJUST TREBLE RESPONSE BY:

- Adjusting the tone controls on the AVS-1500.


MID/HIGH FREQUENCY DRIVER (TWEETER)
LOW/MID FREQUENCY DRIVER (WOOFER)
PASSIVE RADIATOR

DRIVERS AVS SPEAKERS

CONNECTING A JENSEN AUDIO + VIDEO COMPONENT SYSTEM



CONNECT AVS-1500 AND AVS-4400 BY USING VIDEO 1 CONNECTIONS

1. Connect **VIDEO OUT terminal** on AVS-4400 to top (yellow) **VIDEO 1 INPUT terminal 82**. Use one of the 4 foot 75 ohm coaxial cables with yellow US pin plugs provided with the AVS-1500 to make the connection.

2. Connect **VIDEO IN connector** on the AVS-4400 to top (yellow) **VIDEO 1 OUTPUT terminal 83**. Use the other 4 foot 75 ohm coaxial cable with yellow US pin plugs provided with the AVS-1500 to make the connection.

For audio input and output connections (steps 3-6 below) use the two dual shielded audio cables supplied with the AVS-1500. The US pin plug connections on those cables are color coded white and red. That makes it easy for you to keep LEFT and RIGHT connections correct.

3. Connect **LEFT AUDIO OUT terminal** of the AVS-4400 to middle (white, AUDIO LEFT) **VIDEO 1 INPUT terminal 82**.

4. Connect **RIGHT AUDIO OUT terminal** of the AVS-4400 to bottom (red, AUDIO RIGHT) **VIDEO 1 INPUT terminal 82**.

5. Connect **LEFT AUDIO IN** of the AVS-4400 to middle (white, AUDIO LEFT) **VIDEO 1 OUTPUT terminal 83**.

6. Connect **RIGHT AUDIO IN** of the AVS-4400 to bottom (red, AUDIO RIGHT) **VIDEO 1 OUTPUT terminal 83**.

CONNECT AVS-1500 AND AVS-3250 (OR AVS-3190)

1. Connect **VIDEO MONITOR INPUT terminal** on the AVS-3250 to **VIDEO MONITOR OUTPUT terminal 90**. Use the 75 ohm coaxial cable with US pin plug (RCA plug) connectors supplied with the AVS-3250.

2. Connect **RCC terminal** on the AVS-3250 to **RCC terminal 91**. The RCC connection lets the AVS-1500 control the AVS-3250. The monitor is turned on whenever the TV, SIMUL, or one of the VIDEO input selector buttons are pressed.

To make the connection use the RCC cable with 3.5mm mini-plug connectors supplied with the AVS-3250.

Turn **MULTIPLE-NORMAL switch** on AVS-3250 to NORMAL. (If you have more than one monitor see the AVS-3250 applications manual.)

CONNECT THE AVS-1500 TO THE AVS-5250 SPEAKERS

1. Use speaker wire to make the connections. (See page 27 and 28 for instructions on buying speaker wire, how to strip speaker wire and polarity.) Twist the speaker wire and use the AVS-1500 connectors.

2. Left and right are left and right of a person in front of the AVS-1500. (Listening location).

3. Connect wire from right speaker to **Speaker A right terminals 77**.

4. Connect wire from left speaker to **Speaker A left terminals 76**.

5. For two pair of speakers connect wire from the second right speaker to **Speaker B right terminals 74**, and cable from the second left speaker to **Speaker B left terminals 75**.

ANTENNA CONNECTIONS (See page 30 for hookups.)

You need VHF, UHF and FM antennas. (See page 29 for more detail about antennas.)

There are several acceptable ways to interconnect antennas. To be able to make full use of all of the capabilities of this Audio + Video System we suggest you connect antennas to both the AVS-1500 and AVS-4400. Use one (or more) "2 set couplers" so antennas go to both components.

Connect VHF antenna input to **VHF 75 ohm terminal 81**. Use 75 ohm coaxial cable with an "F" connector.

Connect UHF antenna input to **UHF 300 ohm terminal 79**. Use 300 ohm twin lead with spade lugs or use the toothed washers to pierce the insulation.

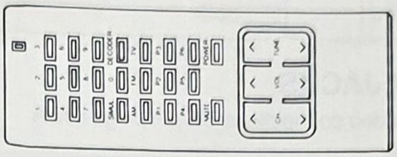
Check the antenna lead of the FM antenna. For FM antenna with 75 ohm coaxial cable, strip the cable and connect the center conductor to **FM 300-75 ohm terminal 70**, connect the shield to **FM 75 ohm GND terminal 71**. For FM antenna with 300 ohm twin lead connect one conductor to **FM 300 ohm terminal 69** connect the other conductor to **FM 300-75 ohm terminal 70**.

SUPPLIED ACCESSORIES

[Part numbers are in brackets]

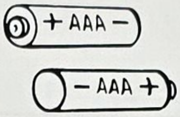
REMOTE CONTROL

Unit [R-1500]



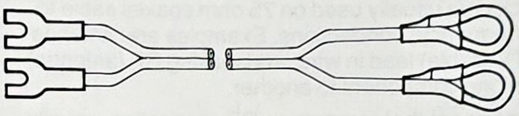
2 AAA BATTERIES

For remote control. See page 19 to install remote control batteries.



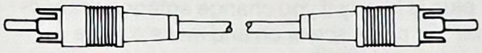
75 OHM INDOOR FM DIPOLE ANTENNA

(T shaped wire with spade lugs at base of T, and loops at the two tips of the T.) [47A00021] See page 31 to install the FM antenna.



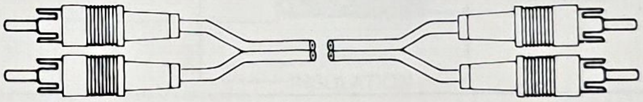
2–75 OHM COAXIAL CABLES

For video connections. (Single 4 foot wire with yellow US pin plug (RCA plug) on each end.) [47A00023]



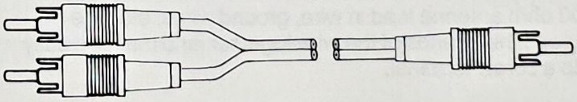
2–DUAL SHIELDED AUDIO CABLES

For audio connections. (Double 4 foot wire with a red and a white US pin plug (RCA plug) on each end) [47A0020]



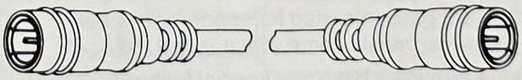
1–SHIELDED AUDIO "Y" CABLE

For mono audio connection. (Double 4 foot wire with a red and a white US pin plug (RCA plug) on one end and a single (grey) US pin plug (RCA plug) on the other end.) [47A00018]



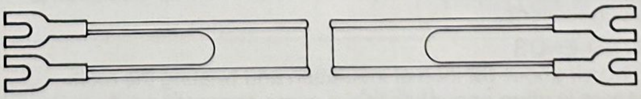
1–75 OHM COAXIAL CABLE

For RF connections. (Single 6 foot wire with a push-on "F" connector at each end.) [47A00019]



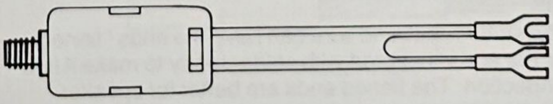
1–300 OHM TWIN LEAD

For UHF connections (Flat ribbon 6 feet long with two spade lugs on each end.) [47A00025]



1–75 TO 300 OHM TRANSFORMER

For UHF connections. (Plastic box with a short length of 300 ohm twin lead with spade lugs at one end and an "F" connector at the other end.) [19B00001]



ABOUT WIRE AND CONNECTORS

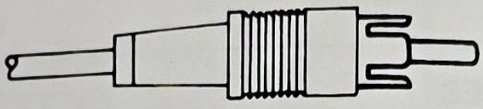
The audio and video industry uses a large number of types of wires and connectors. This section will give you an idea of what is meant by the names of wire and connectors you may need to use for the AVS-1500.

US PIN PLUGS AND JACKS

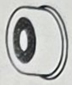
They are used for audio and video connections US pin plugs (RCA plugs) connect to US pin jacks.

US pin jack terminals on the AVS-1500 are color coded: Yellow for video, White for audio left and red for audio right.

US pin plugs are also called RCA plugs



US PIN PLUG



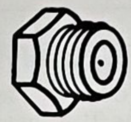
US PIN JACK

"F" PLUGS AND JACKS

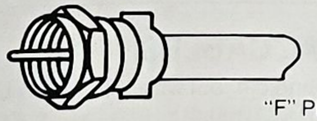
"F" plugs and jacks are usually used on 75 ohm coaxial cable to make RF (radio frequency) connections. Examples are: antenna lead in wire, CATV (cable) lead in wire, and making RF (antenna) connections from one component to another.

An electronic component that requires an RF connection, usually uses an "F" jack. For example, a TV receiver antenna input, tuner antenna input, videocassette recorder RF output, etc.

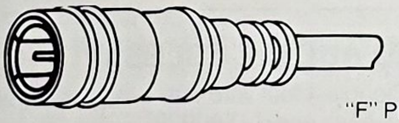
A quick connect "F" plug is handy if you change antenna connections a lot. The regular "F" plugs screw on and make a more stable connection.



"F" JACK



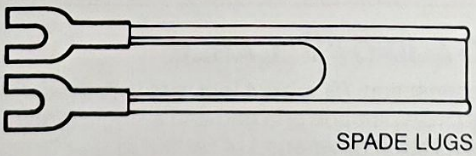
"F" PLUG



"F" PLUG (QUICK CONNECT)

SPADE LUGS

Spade lugs are often used on the ends of multi-strand wire. Examples are: 300 ohm antenna lead in wire, ground wires, etc. The spade lug keeps the strands of the wire together, and makes it easy to connect to a screw terminal.



SPADE LUGS

SCREW TERMINALS

Screw terminals are terminals intended for spade lugs or bare wire corrections. Screw terminals come with a screw slot.

On the AVS-1500 the terminals have two special features.

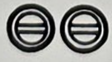
1. They have a post so you can turn them with your fingers.
2. They have washers with the piercing "teeth" on them. The teeth pierce wire insulation so you don't have to strip insulation to make connections.

TWISTED ENDS

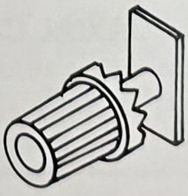
Stripping off about 1/2 inch of insulation and twisting the multistrand wire is often enough to make some connections. An example is speaker wire. Be careful so a loose strand of the multistrand wire does not make a short circuit.

TINNED ENDS

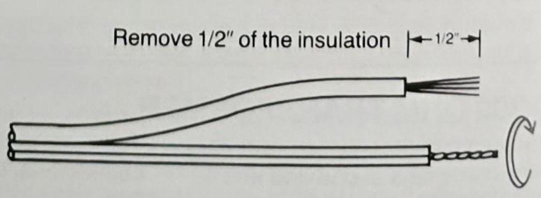
Stripped and twisted multistrand wire can have the ends "tinned". Tinned means the end is covered with solder ready to make it into a soldered connection. The tinned ends are better for speaker connections because there are no loose strands.



REGULAR

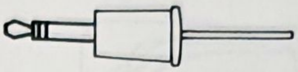


SPECIAL



MINI-PLUG

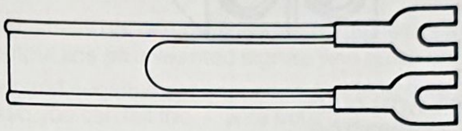
A mini-plug (3.5mm) is used on the AVS-1500 to make RCC connections.



MINI-PLUG

300 OHM TWIN LEAD

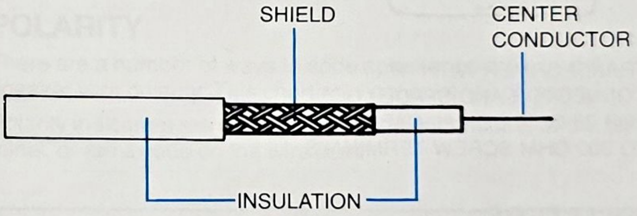
300 ohm twin lead is commonly used for UHF and FM connections. It is so common that 300 ohm terminals are provided on the AVS-1500. (We recommend 75 ohm coaxial cable for all antenna connections.)



300 OHM TWIN LEAD

75 OHM COAXIAL CABLE

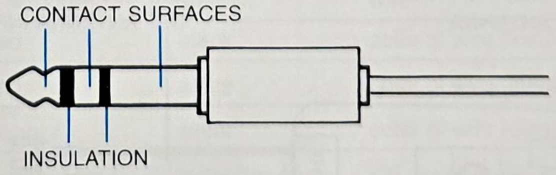
75 ohm coaxial cable (called "RG/59U" or "VCR cable" or "VTR cable" or "75Ω coaxial cable") has one wire in the middle and another conductor as a braided shield around it. The outside shield of coaxial cable protects the inside wire from receiving unwanted signals. Coaxial cable is much less likely to pick up "noise" and double images. Coaxial cable is often used for antenna connections, especially for VHF, and for video connections. 75 ohm coaxial cable comes with either "F" connectors for antenna connections or US pin plugs for video connections.



75 OHM COAXIAL CABLE

STEREO PHONE PLUG

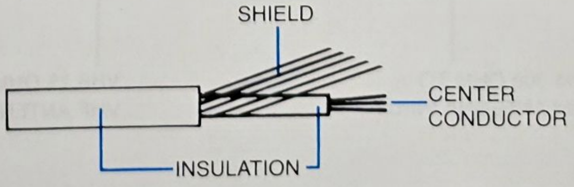
A 1/4" stereo phone plug is used for the headphone connection. A stereo phone plug has three contact surfaces separated by two bands of insulation.



STEREO PHONE PLUG

SHIELDED AUDIO CABLE

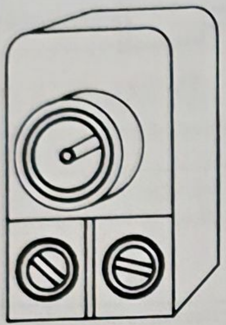
Shielded audio cable is designed to prevent interference with audio signals. It comes in various lengths and colors with US pin plug connectors. (75 ohm coaxial cable with US pin plugs can be used for audio connections but it is more expensive.)



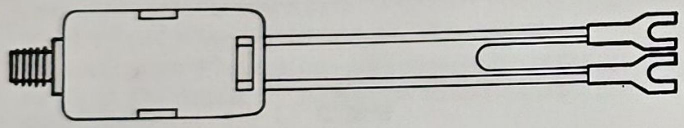
SHIELDED AUDIO CABLE

TRANSFORMERS

Changing from 75 ohm coaxial cable to 300 ohm twin lead requires a transformer.



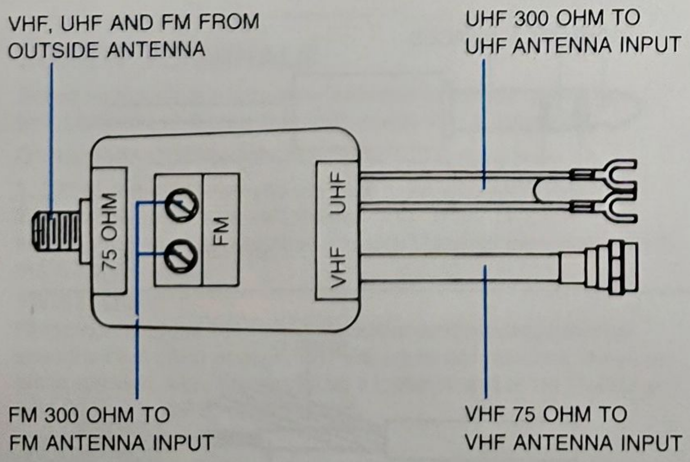
TRANSFORMER WITH QUICK
CONNECT "F" CONNECTOR
AND SCREW TERMINALS FOR 300 OHM TWIN LEAD
TO 75 OHM "F" JACK



TRANSFORMER WITH "F"
CONNECTOR AND SPADE LUGS
FOR 75 OHM COXIAL CABLE
TO 300 OHM SCREW TERMINALS

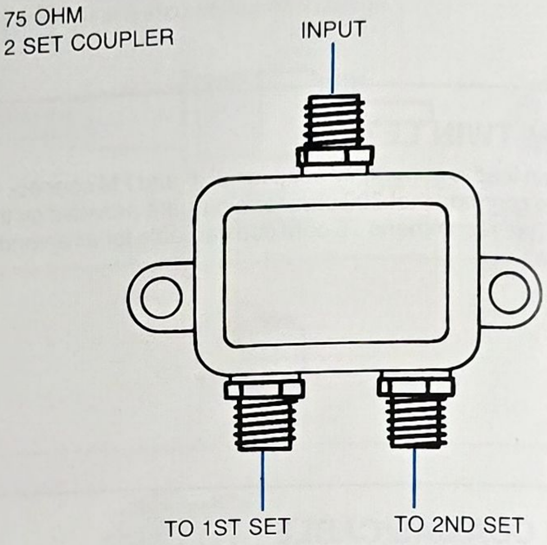
SPLITTERS

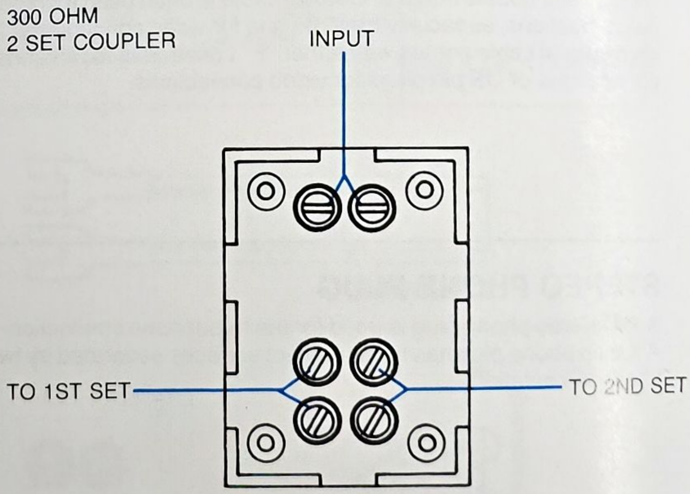
A splitter is a combination transformer. If a 75 ohm coaxial cable carries several signals, for example VHF, UHF and FM antenna signals, a splitter is used to separate them.


VHF, UHF AND FM FROM OUTSIDE ANTENNA
UHF 300 OHM TO UHF ANTENNA INPUT
75 OHM
FM
UHF
VHF
FM 300 OHM TO FM ANTENNA INPUT
VHF 75 OHM TO VHF ANTENNA INPUT

2 SET COUPLER

A two set coupler (also called coupler/splitter, Hybrid Splitter or Coupler/Combiner) lets you connect two or more devices to the same antenna. Couplers can be 75 ohm or 300 ohm.


75 OHM
2 SET COUPLER
INPUT
TO 1ST SET
TO 2ND SET


300 OHM
2 SET COUPLER
INPUT
TO 1ST SET
TO 2ND SET

Usually an antenna signal is strong enough so it can "drive" two components. Couplers are also available in 3 and 4 set models. If the antenna signal is weak (poor picture) or if you want to drive more than two components from one antenna you may need an antenna signal amplifier

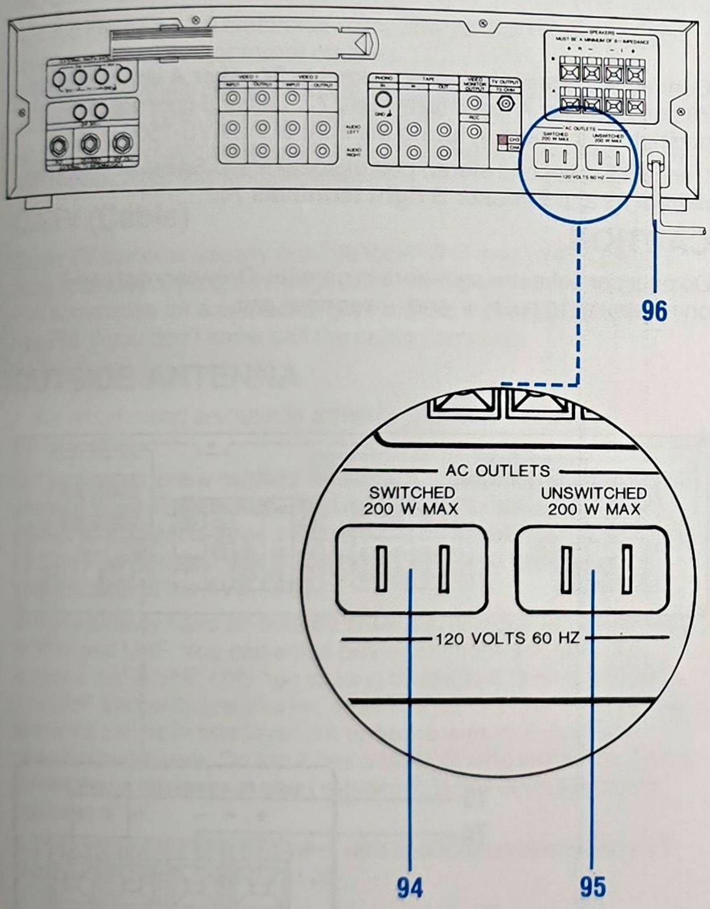
AC OUTLETS

As you concentrate your electronic entertainment components at the AVS-1500, you may not find enough AC outlets nearby to plug everything in. For example; AVS-1500, monitor, videocassette recorder, turntable, and tape deck, make five components to plug in.

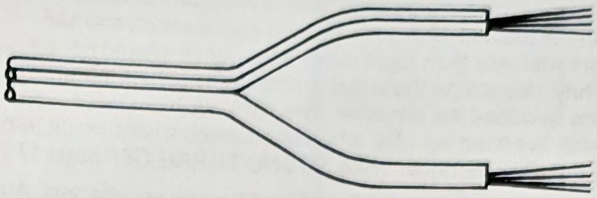
The AVS-1500 has two convenience outlets. One is "switched". **AC outlet switched 94** has power to it only when the **POWER button 1** of the AVS-1500 is on. Use the **AC outlet switched 94** for a component that works only through the AVS-1500, for example, your tape deck.

The other outlet is "unswitched". **AC outlet unswitched 95** has power available as long as the **AC power 96** cord is plugged in and has power. Use **AC outlet unswitched 95** for a component that may be used independently of the AVS-1500, for example, a videocassette recorder; or for a component that automatically turns off, for example, a Jensen monitor, or an automatic turntable.

If you have too many components for your wall and convenience outlets, you may want to buy an appliance power tap.



SPEAKER WIRE



Speaker wire is not usually shielded because it is a high signal level output line so unwanted signals and noise are not a problem.

Positive and negative are important. Speaker wire is usually coded so you can tell the + wire from the − wire. See Polarity.

The gauge (thickness) of the speaker wire you need depends on how long the wire is from the receiver to the speaker. Use heavier gauge (smaller number, for example, 16 gauge) for long wires 50 feet or less. You can use lighter gauge (larger number for example 18 gauge) for short wires, 20 feet or less.

"Lamp cord", the wire used to wire lights and extension cords, can be used for speakers. Lamp cord is usually 18 gauge and the two wires are often distinguished by a rib in the insulation.

POLARITY

There are a number of ways to code speaker polarity, and the speaker wire polarity. This chart may not cover all of them.

Polarity indicators are either a part of the connectors, or the terminal, or are a code on the wire itself.

POLARITY INDICATORS

+	−	**Connector or wire**
red	black	terminal
with rib	no rib	wire
with ridges	smooth	wire
red	black	color of wire (insulation)
red	white	color of wire (insulation)
copper	silver	color of wire (clear insulation)
center post	outer flange	US pin plug (RCA plug)
center hole	outer flange	US pin jack (RCA jack)

SPEAKERS

CHOOSING SPEAKERS

Speakers must be a minimum of 8 ohm impedance. Check the rating on the back of the speakers or in your owner's manual. Speakers with less than eight ohms impedance should not be used. They may distort the sound, particularly at high volume. They may overload the amplifier. The AVS-1500 amplifier is protected with overload cut-offs, when overloaded it will turn off temporarily until it cools down. (See SOUND TURNS OFF page 17.)

Rated power output of the AVS-1500 is 50 watts per channel. Audio distortion does not exceed rated values up to 50 watts power output. That is, 50 watts per speaker, or per pair of speakers connected to the left speaker outputs, and 50 watts per speaker or per pair of speakers connected to the right speaker outputs.

NUMBER OF SPEAKERS

Two stereo pairs of 8 ohm speakers are usually connected to the AVS-1500 (4 speakers total.)

Connect the first stereo pair to the A row of terminals. Connect the second stereo pair to the B row of terminals. (It is easier to connect the lower, A, row first because you don't have to make connections below a set of wires.)

POLARITY

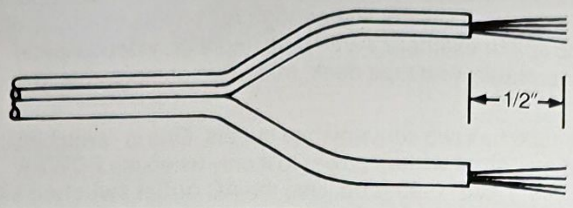
Keep the polarity correct to get the proper sound output for your AVS-1500. Wrong polarity (when one of the speakers of a stereo pair has reversed polarity) won't damage anything, but it can result in reduced bass response and poor stereo imaging. See page 27, polarity indicators.

SPEAKER POLARITY CHECK

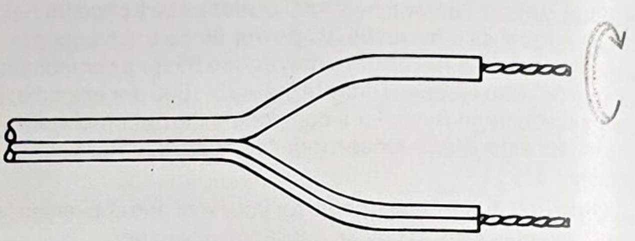
If you are not sure what your speaker polarity is, you can do this check:

1. Connect the stereo pair of speakers to the AVS-1500.
2. Move the stereo pair of speakers so the speakers are close to each other.
3. Listen to music (FM, AM or phonograph) that has a lot of bass.
4. Press **MONO button 64** so it is at MONO (in) position.
5. Switch + − on one speaker.
6. Listen again. The connection with correct polarity will be noticeably louder. Use the connection that makes the speakers sound louder.

CONNECTING SPEAKERS



REMOVE 1/2" OF THE INSULATION



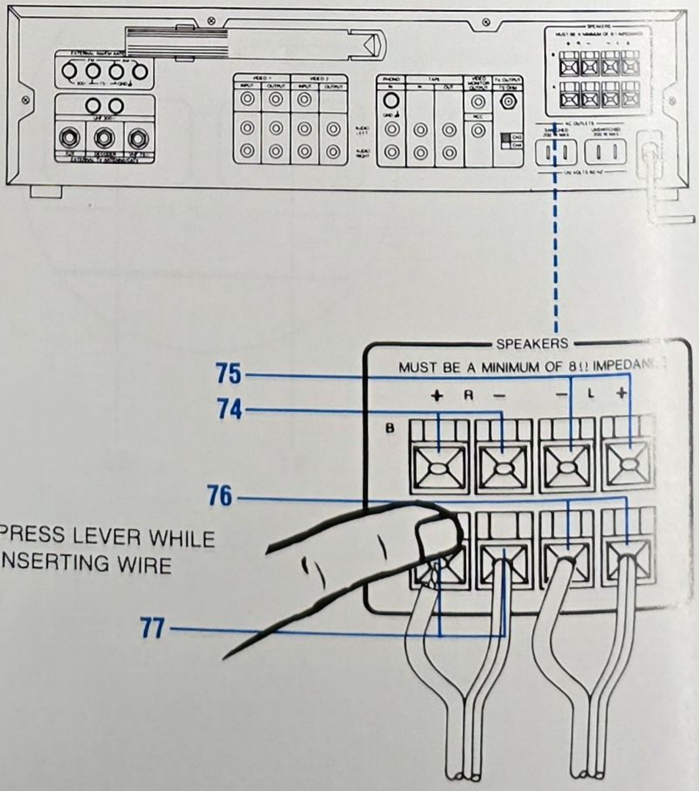
TWIST THE ENDS

Connect first stereo pair of speakers to **Speaker A left terminals 76** and **Speaker A right terminals 77.** Left and right are to the left and right of the person facing the front of the AVS-1500.

Connect the second stereo pair of speakers to **Speaker B left terminals 75** and **Speaker B right terminals 74.**

CAUTION

Do not connect extra speakers in parallel. Only connect one 8 ohm speaker to each + and − terminal pair.



PRESS LEVER WHILE INSERTING WIRE

ANTENNAS

Making antenna connections depends on a number of things:
- what signals your antenna or CATV (cable) system provides
- what kind of lead-in wire the antenna has
- what kind of antenna connectors other components have. The major possibilities are covered in this section. Your situation may not be covered. There are too many combinations of antenna types, CATV (cable), pay TV, or other electronic devices you may have that need an antenna; to cover all of the possibilities. Even the kind of lead-in wire is important in antenna connections. The cables and connectors supplied with the AVS-1500 will help. If your antenna situation is not covered follow the given connections as guidelines and these "rules of thumb":

ANTENNA RULES-OF-THUMB

1. First make antenna connections to the AVS-1500, then to other components.
2. Use 75 ohm coaxial cable wherever possible to avoid noise and interfering signals.
3. When you need a change between 75 ohm coaxial cable and 300 ohm twin lead use a transformer.
4. If you have several electronic components that need the same antenna use a 2 set (or more) coupler.
5. If several signals come in on the same lead-in wire (for example VHF, UHF and FM) use a splitter.

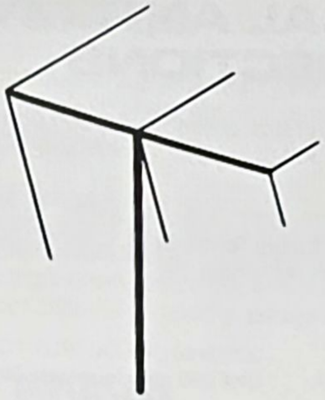
***NOTE:** If couplers and splitters are both used start from the antenna, connect the coupler(s) first, then the splitter(s).*

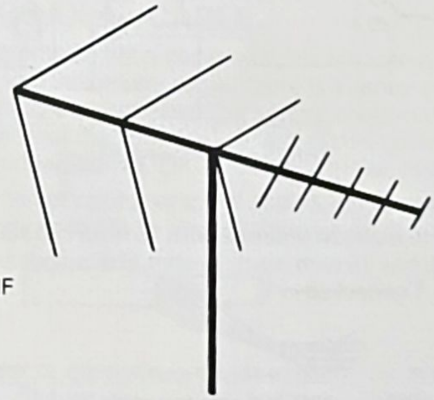
CATV (Cable)

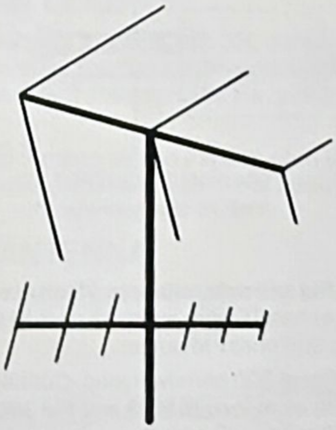
Cable TV systems usually provide local VHF and UHF band stations and special programming. Some cable systems also provide FM, sometimes for a extra charge. Find out if your cable system has FM. If you don't know call the cable company.

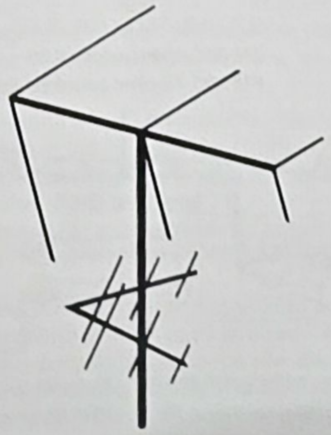
OUTSIDE ANTENNA

1. We recommend an outside antenna if you don't have CATV (cable).
2. If you install a new outside antenna, we recommend you get an antenna for VHF, UHF and FM. Use 75 ohm coaxial cable for lead-in wire. (Best is three separate antennas with three separate 75 ohm lead in wires. Use a 75 ohm to 300 ohm transformer to connect UHF at the AVS-1500.)
3. If you already have an outside antenna, find out if it is VHF only or VHF and UHF. You can ask a dealer or check yourself. An antenna that is VHF only has all long crossbars, over a foot long. The UHF elements are shorter, around a foot long or less. All the elements can be in one layer. An antenna with VHF and UHF often has two layers. On top it has a layer of long elements. Lower down it has a flat layer of short elements or the short elements can be in a "v".
4. Decide if your antenna lead in wire is 300 ohm twin lead or 75 ohm coaxial cable. See page 25


VHF ONLY


VHF AND UHF
ONE LAYER

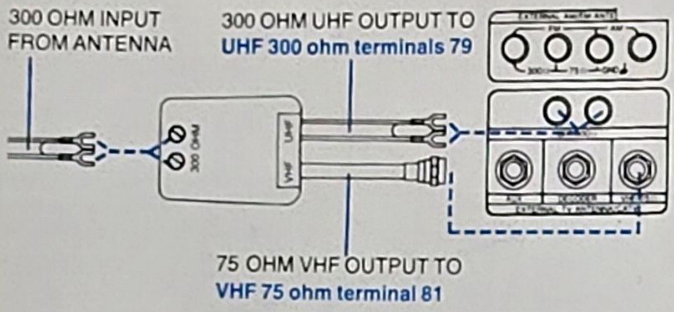

VHF AND UHF
TWO LAYERS


VHF AND UHF
IN A "V"

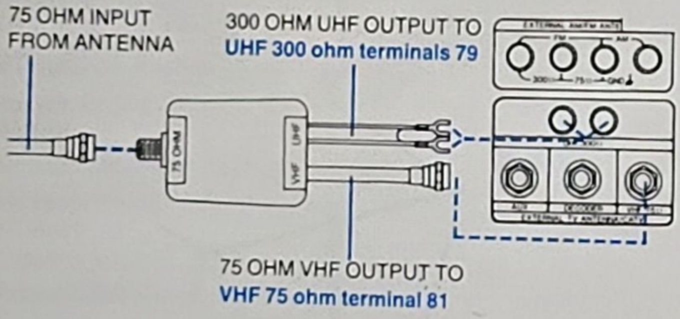
TYPICAL ANTENNA CONNECTIONS

1. VHF & UHF outside antenna with 300 ohm twin lead. Use a splitter that has 300 ohm input, 75 ohm VHF output and 300 ohm UHF output.

Connect 300 ohm antenna lead to splitter. Connect 75 ohm VHF output to **VHF 75 ohm terminal 81.** Connect 300 ohm UHF output to **UHF 300 ohm terminals 79.**

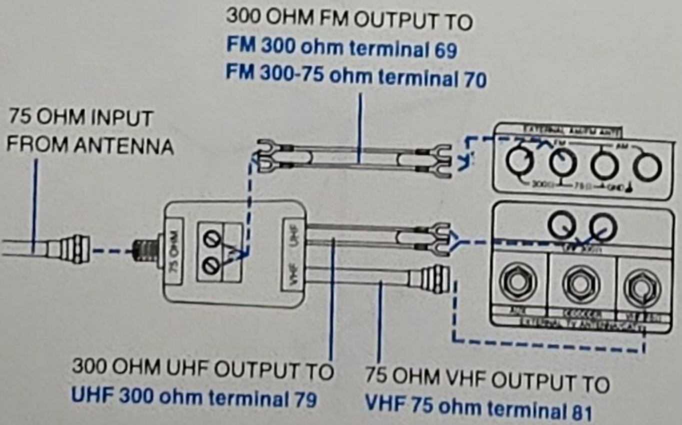

300 OHM INPUT FROM ANTENNA
300 OHM UHF OUTPUT TO
UHF 300 ohm terminals 79
300 OHM
UHF
VHF
75 OHM VHF OUTPUT TO
VHF 75 ohm terminal 81

2. VHF & UHF outside antenna with 75 ohm coaxial cable. Use a splitter that has 75 ohm input, 75 ohm VHF output and 300 ohm UHF output. Connect as in 1.


75 OHM INPUT FROM ANTENNA
300 OHM UHF OUTPUT TO
UHF 300 ohm terminals 79
75 OHM
UHF
VHF
75 OHM VHF OUTPUT TO
VHF 75 ohm terminal 81

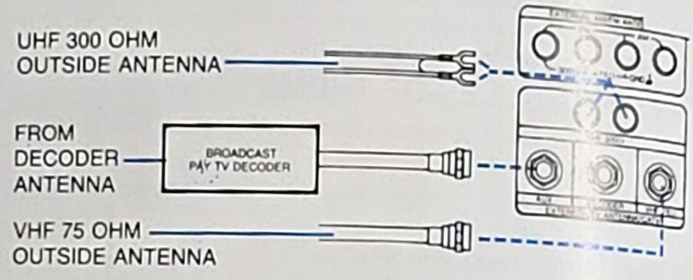
3. VHF, UHF & FM outside antenna, 75 ohm coaxial cable
Use a splitter that has 75 ohm input, 75 ohm VHF output, 300 ohm UHF output and 300 ohm FM output.

Use a short length of 300 ohm twin lead. Connect FM terminals of splitter to **FM 300 ohm terminal 69** and **FM 300-75 ohm terminal 70.** Connect VHF and UHF as in 1.


300 OHM FM OUTPUT TO
FM 300 ohm terminal 69
FM 300-75 ohm terminal 70
75 OHM INPUT FROM ANTENNA
75 OHM
UHF
VHF
300 OHM UHF OUTPUT TO
UHF 300 ohm terminal 79
75 OHM VHF OUTPUT TO
VHF 75 ohm terminal 81

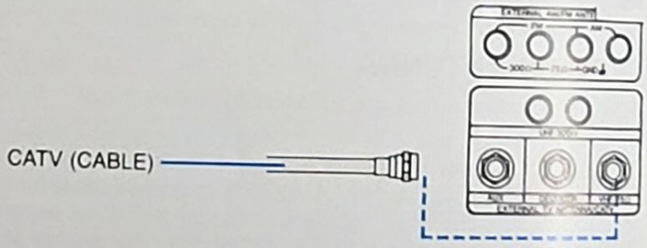
4. Antenna and broadcast decoder (broadcast pay TV.) Connect VHF antenna to **VHF 75 ohm terminal 81,** if VHF antenna lead is 300 ohm twin lead use 300 ohm to 75 ohm transformer to make the connection. Connect UHF antenna to **UHF 300 ohm terminal 79,** if UHF antenna lead is 75 ohm coaxial cable use the 75 ohm to 300 ohm transformer provided with the AVS-1500 to make the connection.

Connect outside antenna to decoder device as directed by the broadcast pay TV service. Connect output of decoder device to **AUX antenna terminal 78.** See page 18 for how to use **DECODER button 68.**

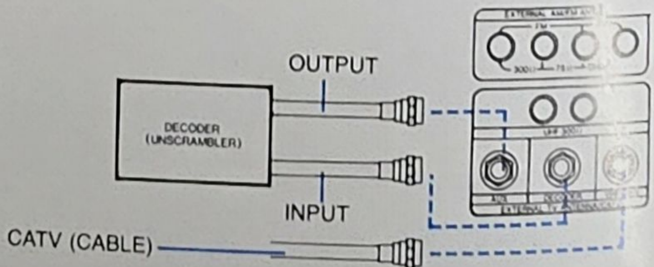

UHF 300 OHM OUTSIDE ANTENNA
FROM DECODER ANTENNA
BROADCAST PAY TV DECODER
VHF 75 OHM OUTSIDE ANTENNA

5. CATV (cable)
Connect CATV (cable) to **VHF 75 ohm terminal 81.**

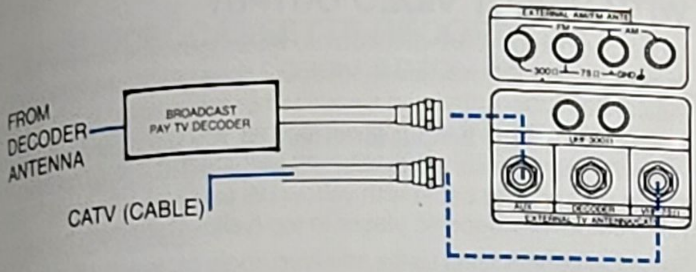
NOTE: *The AVS-1500 has a* ***cable ready*** *tuner. You connect the CATV (cable) directly to the AVS-1500. Press* ***CATV/TV button 67*** *so* ***CATV display light 34*** *is lit. The AVS-1500 selects CATV channels without a separate cable channel selector.*



6. CATV (cable) with DECODER
If your CATV company has a special decoder (unscrambler) for some channels: connect the CATV (cable) to **VHF 75 ohm terminal 81.** Connect **DECODER terminal 80** to input of decoder device. Connect output of decoder device to **AUX antenna terminal 78.** Use 75 ohm coaxial cable with "F" connectors for all connections. See **page 18** for how to use the **DECODER button 68.**


OUTPUT
DECODER (UNSCRAMBLER)
INPUT
CATV (CABLE)

7. CATV (cable) and broadcast decoder (broadcast pay-TV)
If you have both a CATV (cable) and also subscribe to broadcast (off-the-air) TV Service (Decoder): Connect CATV (cable) to **VHF 75 ohm terminal 81**. Connect output of decoder **to AUX antenna terminal 78**. Input to the decoder will be from an antenna. The pay TV service will tell you about the antenna requirements. (See page 18 for how to use the **DECODER button 68**.)



8. CATV (cable) with FM
If your CATV (cable), also provides stereo FM, the CATV (cable) should connect to the **VHF 75 ohm terminal 81** and the FM to an FM antenna terminal.

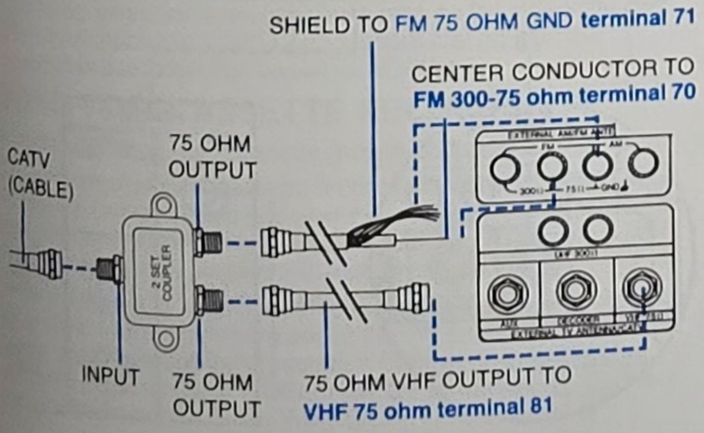
Most available FM splitters for 75 ohm antenna or CATV (cable) input also split off the UHF. You do not want to do that because the cable ready feature **(CATV/TV button 67)** is designed for the cable UHF frequencies to come into **VHF 75 ohm terminal 81** or **AUX antenna terminal 78.**

We suggest you use a 75 ohm two two set coupler and 2 short lengths of 75 ohm coaxial cable. One length of coaxial cable should have "F" connectors on both ends. The other length of coaxial cable should have an "F" connector at one end and a bare center conductor and shield at the other.

Connect CATV (cable) to the input of the 2 set coupler. Connect one output of the 2 set coupler to **VHF 75 ohm terminal 81**, use the 75 ohm coaxial cable with 2 "F" connectors. Connect the "F" connector end of the second cable to the other output of the 2 set coupler. Connect the center conductor of the coaxial cable to **FM 300-75 ohm terminal 70**. Connect the shield of the coaxial cable to **FM 75 ohm GND terminal 71**.

Press **CATV button 67** so it is in CATV ("in") position. **CATV display light 34** will be lit. Leave **CATV/TV button 67** in CATV position.

When you select TV channels with the AVS-1500 they will be CATV (cable) channels. FM frequency selection can be done as usual, using **TUNE button 49, TUNE button R14** or P buttons.



AM ANTENNA

For most purposes the built-in **AM antenna 73** will be satisfactory. You can adjust the antenna for better AM reception by swinging the antenna out. The antenna will swing out horizontally to a little past straight out.

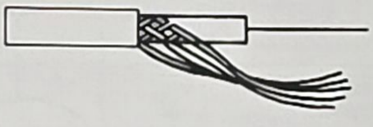
If you want to receive distant AM stations you can use an outside AM antenna. Attach one end of the antenna wire to **AM antenna terminal 72.** The antenna wire should have a suitable lightning arrestor, and grounding system, where the antenna enters the building. (See outdoor antenna grounding, **paragraph (18)**, page 2.)

FM ANTENNA

OUTSIDE FM ANTENNA WITH 75 OHM COAXIAL CABLE

If you have an outside FM antenna with 75 ohm coaxial cable lead-in wire, strip the coaxial cable. There is a center conductor (wire) in the middle of the cable. The second conductor is a braided set of wires that form a shield around the center conductor. Connect as in 8, CATV (cable) with FM, this page.

Connect the center conductor to **FM 300-75 ohm terminal 70.**
Connect the shield to **FM 75 ohm GND terminal 71.**



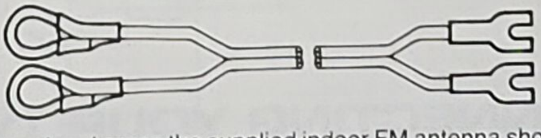
OUTSIDE FM ANTENNA WITH 300 OHM TWIN LEAD

If you have an outside FM antenna with 300 ohm twin lead, you do not have to strip the wire. You can use the insulation piercing washers on the screw terminals to make the connection (see page 24.)

Connect one wire of the twin lead to **FM 300 ohm terminal 69.** Connect the other wire of the twin lead to **FM 300-75 ohm terminal 70.**

INDOOR FM ANTENNA

If you have no outside FM antenna or cable FM use the supplied indoor FM antenna.



In strong signal areas the supplied indoor FM antenna should be enough. If the FM signals are weak because the station is far away, or because tall buildings or hills interfere, an outside FM antenna should be used.

The supplied FM antenna is a 75 ohm dipole. The top of the "T" is the antenna. The stem of the "T" lets you connect the antenna. Connect one spade lug to **FM 300-75 ohm terminal 70.** Connect the other to **FM 75 ohm GND terminal 71.**

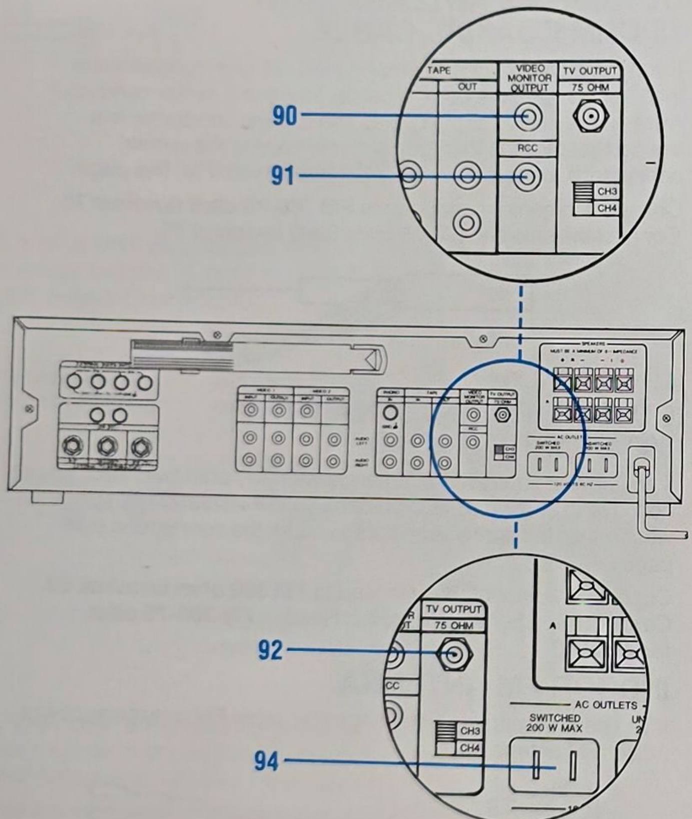
NOTE: *If you buy an indoor FM antenna it can be either 75 ohm or 300 ohm. It is 300 ohm if the base of the antenna is 300 ohm twin lead.*

Mount so the antenna is horizontal and stretched out. The loops on the ends of the antenna make it easy to attach. Best reception is when the antenna is perpendicular to the FM station. (The difference in reception is small, so usually you don't have to change the antenna position when you change stations.)

CONNECTING VIDEO COMPONENTS

CONNECTING YOUR MONITOR

Connect **VIDEO MONITOR OUTPUT terminal 90** to the video input of your monitor. Use 75 ohm coaxial cable with US pin plug (RCA plug) connectors.
Connect **RCC teminal 91** to the remote control connection of your monitor. Use a two conductor cable with 3.5 mm miniplug connectors.



CONNECTING YOUR TV RECEIVER

Connect **TV output terminal 92** on the AVS-1500 to the VHF antenna connections on your TV receiver. Use the 75 ohm coaxial cable with 2"f" connectors provided with the AVS-1500. If your TV receiver has only screw connectors for the VHF antenna (See page 24 for description of types of wiring and connectors) use the 75 ohm to 300 ohm transformer provided with the AVS-1500 to make the connection at the TV receiver.

Set your TV receiver to YOUR VIDEO CHANNEL (3 or 4) (See page 9.) If you use your TV receiver in place of a video monitor in your system you may want to plug your TV receiver into **AC outlet switched 94**, keep the TV receiver power switch ON, and the TV receiver channel selector at YOUR VIDEO CHANNEL. The TV receiver will then come on when **POWER button 1** is pressed.

CONNECTING YOUR VIDEODISC PLAYER

Videodisc players can come with direct video and audio outputs and an RF output or with only an RF output. You need a direct video output for videodiscs in stereo. If your player has only an RF output skip to Videodisc Player with RF output.

VIDEODISC PLAYER WITH DIRECT VIDEO OUTPUT

Videodisc players cannot record so we suggest you connect your videodisc player to VIDEO 2. VIDEO 2 does not have a video output connection.

Connect to **VIDEO 2 input terminals 84**. For video connections use a 75 ohm coaxial cable with US pin plug (RCA plug) connectors. (Use supplied cable with yellow US pin plugs.) Connect video output of videodisc player to top (yellow) terminal.

For audio connections use a shielded audio cable with US pin plug (RCA plug) connectors. (Use supplied audio cable with 2 US pin plugs on each end.) Connect audio left output of videodisc player to middle (white, AUDIO LEFT) input terminal. Connect audio right output of videodisc player to bottom (red, AUDIO RIGHT), input terminal.

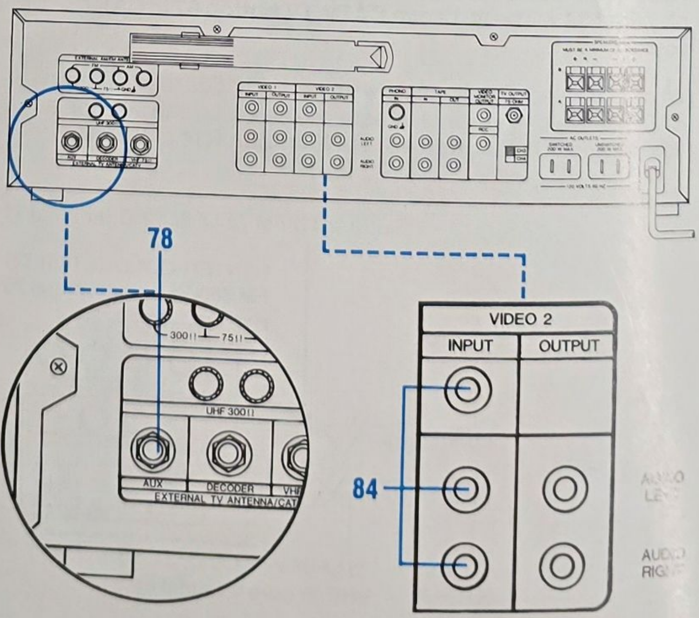
MONO VIDEODISC PLAYER

If your videodisc player is not stereo use the supplied audio "Y" cable that has one US pin plug on one end and two US pin plugs on the other end. Connect the two US pin plug end to the AVS-1500, at the audio connections of **VIDEO 2 input terminals 84**. Connect one plug to the middle (white, AUDIO LEFT) input terminal. Connect the other plug to the bottom (red, AUDIO RIGHT input terminal.
Connect the single plug end of the "Y" cable to the audio output of your videodisc player.

VIDEODISC PLAYER WITH RF OUTPUT

Connect RF output (75 ohm coaxial cable) from videodisc player to **AUX antenna terminal 78**. Use 75 ohm coaxial cable with "F" connectors.

To select the videodisc as input to the AVS-1500 press **DECODER button 68** so **DECODER display light 35** is lit. **CATV/TV button 67** should be in TV "out" position (**TV display light 33** is lit.)



CONNECTING YOUR VIDEOCASSETTE RECORDER

You can play cassettes on your videocassette recorder through the AVS-1500. You can make recordings on your videocassette recorder from an input you select with the AVS-1500.

STEREO VIDEOCASSETTE RECORDER

You can connect the stereo videocassette recorder to VIDEO 1 or 2. VIDEO 1 is recommended because it has both input and output connections. You can play recordings through the AVS-1500 but you cannot record video output from the AVS-1500 when connected to VIDEO 2.

CONNECTIONS

Connect outputs from your videocassette recorder to **VIDEO 1 INPUT terminals 82.** Connect video output from your videocassette recorder to the top (yellow) input terminal. Use 75 ohm coaxial cable with US pin plug (RCA plug) connectors. (The supplied cable has yellow US pin plugs.)

For audio connections use shielded audio cable with US pin plug (RCA plug) connectors. (The supplied shielded audio cable has red and white US pin plugs at both ends.) Connect audio left output from your videocassette recorder to the middle (white, AUDIO LEFT) input terminal. Connect audio right output from your videocassette recorder to the bottom (red, AUDIO RIGHT) input terminal.

Connect inputs to your videocassette recorder to **VIDEO 1 OUTPUT terminals 83.**

Connect video input to your videocassette recorder to the top (yellow) terminal. Use 75 ohm coaxial cable with US pin plug (RCA plug) connectors. (The supplied cable has yellow US pin plugs.)

For audio connections use shielded audio cable with US pin plug (RCA plug) connectors. (The supplied shielded audio cable has red and white US pin plugs on both ends.) Connect audio left input to your videocassette recorder to middle (white, AUDIO LEFT) output terminal. Connect audio right input to your videocassette recorder to the bottom (red, AUDIO RIGHT) output terminal.

CONNECTING A SECOND VIDEOCASSETTE RECORDER

If you have a stereo videocassette recorder connected to VIDEO 1 as described above, connect a second stereo or mono video cassette recorder to VIDEO 2. Connections are the same as for VIDEO 1 but use VIDEO 2 input terminals. VIDEO 2 does not have video output connections.

With these connections you can play a tape on the videocassette recorder connected to VIDEO 2 and record that tape on the videocassette recorder connected to VIDEO 1.

MONO VIDEOCASSETTE RECORDER

If you have a mono videocassette recorder connect it to VIDEO 1.

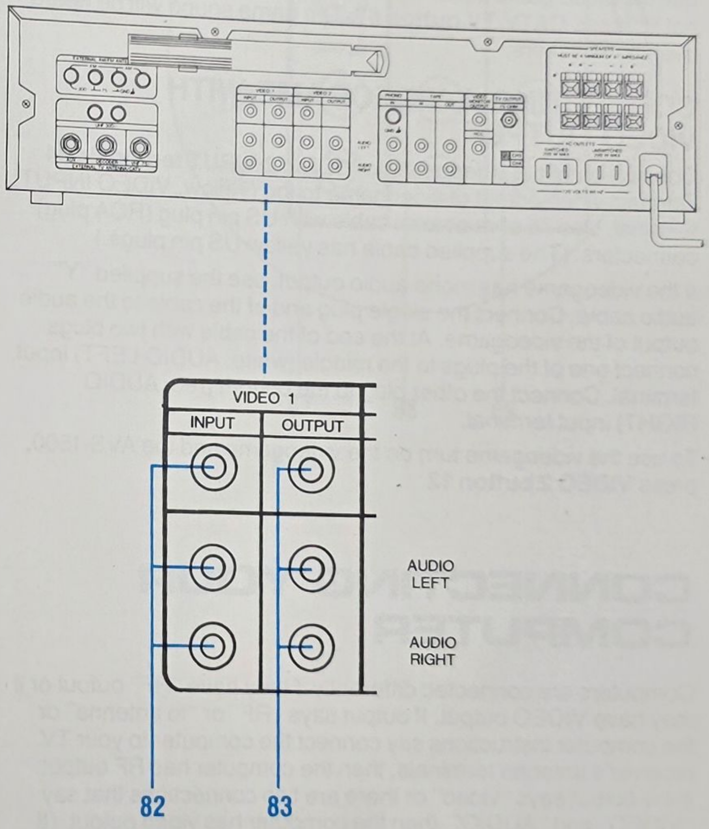
Connect output of videocassette recorder to **VIDEO 1 INPUT terminals 82.** Connect video output of the videocassette recorder to the top (yellow) input terminal. Use the supplied 75 ohm coaxial cable with yellow US pin plug (RCA plug) connectors.

Use the supplied "Y" audio cable to make the audio input connections. Connect the single plug end of the "Y" cable to the audio output of your videocassette recorder. Connect the double plug end to the audio inputs of **VIDEO 1 INPUT terminals 82.** Connect one plug to the middle (white, AUDIO LEFT) input terminal. Connect the other plug to the bottom (red, AUDIO RIGHT) input terminal.

Connect the inputs of the videocassette recorder to **VIDEO 1 OUTPUT terminals 83.** Connect video input of the videocassette recorder to top (yellow) output terminal. Use the supplied 75 ohm coaxial cable with yellow US pin plug (RCA plug) connectors.

You will need to use a second "Y" audio cable to make the audio output connections. Connect the single plug end of the "Y" cable to the audio input of your videocassette recorder. Connect the double plug end to the audio output terminals of **VIDEO 1 OUTPUT terminals 83.** Connect one plug to the middle (white, AUDIO LEFT) output terminal. Connect the other plug to the bottom (red, AUDIO RIGHT) output terminal.

With these connections you can play and record on your videocassette recorder. Stereo or mono inputs to the videocassette recorder will be recorded in mono. All playback will have mono audio. Leave **MODE button 64** at STereo ("out" position.) During playback you can press **SYNTHETIC STEREO button 62** to make mono audio sound like stereo.



CONNECTING YOUR VIDEOGAME

Videogames are connected differently if they have RF output or if they have direct VIDEO output. If the output says "RF" or "antenna out" or the videogame instructions say to connect the game to your TV receiver antenna terminals, then the videogame has RF output. If there are two connections that say "VIDEO" and "AUDIO" then the video game has video output. (If your videogame has both types of output use the video connections.)

CONNECTING A VIDEOGAME WITH RF OUTPUT

Connect RF output of videogame to **AUX antenna terminal 78** Use 75 ohm coaxial cable with "F" connectors.

To use the videogame turn on the videogame and the AVS-1500. Check that **DECODER display light 35** is lit, if not lit, press **DECODER button 68.** Press **TV button 4.** Select the TV channel that the video game uses. Check that **TV display light 33** is lit, if not lit, press **CATV/TV button 67.** The game sound will be heard over the speakers.

CONNECTING A VIDEOGAME WITH VIDEO OUTPUT

Connect output of videogame to **VIDEO 2 INPUT terminals 84** Connect video output of videogame to top (yellow, VIDEO INPUT) terminal. Use 75 ohm coaxial cable with US pin plug (RCA plug) connectors. (The supplied cable has yellow US pin plugs.)

If the videogame has mono audio output, use the supplied "Y" audio cable. Connect the single plug end of the cable to the audio output of the videogame. At the end of the cable with two plugs connect one of the plugs to the middle (white, AUDIO LEFT) input terminal. Connect the other plug to the bottom (red, AUDIO RIGHT) input terminal.

To use the videogame turn on the videogame and the AVS-1500, press **VIDEO 2 button 12**

CONNECTING YOUR COMPUTER

Computers are connected differently if they have "RF" output or if they have VIDEO output. If output says "RF" or "to antenna" or the computer instructions say connect the computer to your TV receiver's antenna terminals, then the computer has RF output. If the output says "video" or there are two connections that say "VIDEO" and "AUDIO", then the computer has video output. (If your computer has both types of output use the video connections.)

NOTE: *Some computers with video output do not have an audio output but still may have a speaker in the computer.*

CONNECTING A COMPUTER WITH RF OUTPUT

Connect RF output of your computer to **AUX antenna terminal 78.** Use 75 ohm coaxial cable with "F" connectors.

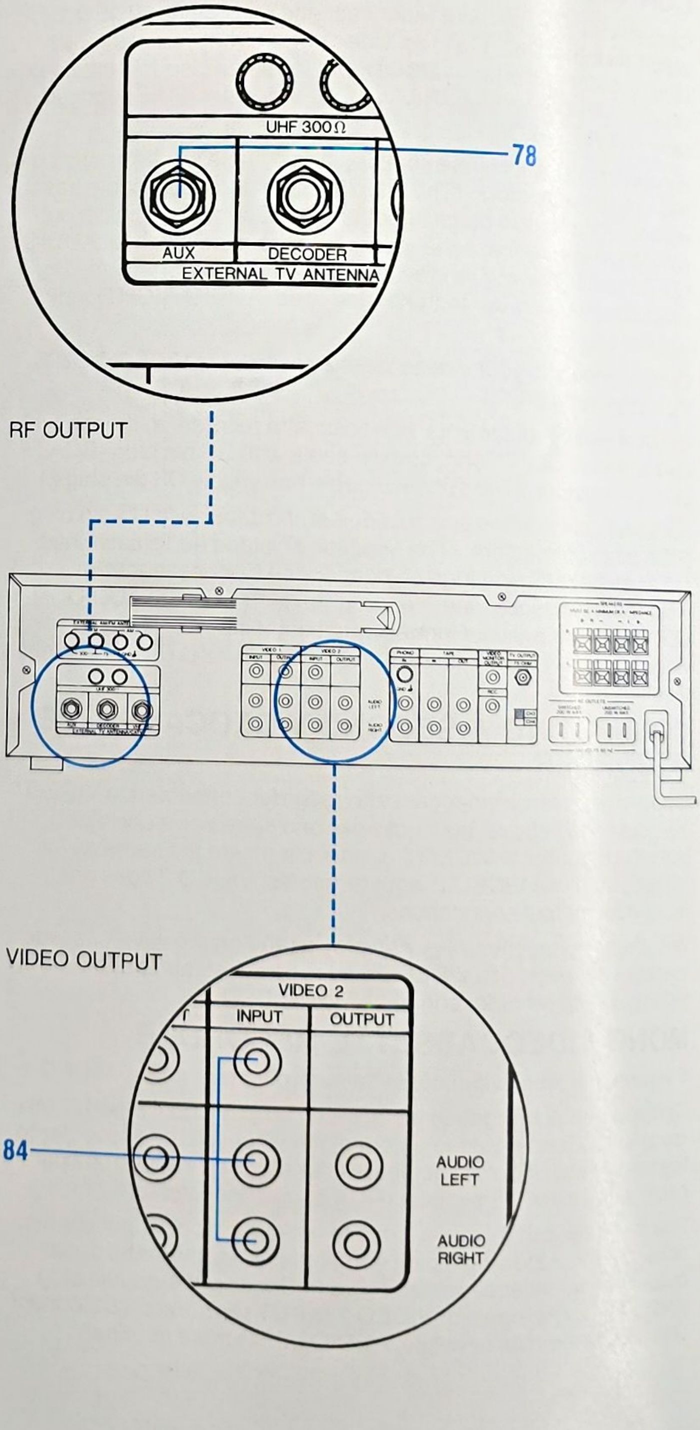
To use the computer turn on the computer and the AVS-1500. Check that **DECODER display light 35** is lit, if not lit, press **DECODER button 68.** Press **TV button 4.** Select the TV channel that the computer uses. Check that **TV display light 33** is lit, if not lit, press **CATV/TV button 67.**

CONNECTING A COMPUTER WITH VIDEO OUTPUT

Connect output of your computer to **VIDEO 2 input terminal 84.** Connect video output of computer to top (yellow, VIDEO INPUT) terminal. Use 75 ohm coaxial cable with US pin plug (RCA plug) connectors. (The supplied cable has yellow US pin plugs.)

If the computer has mono audio output use the supplied "Y" audio cable. Connect the single plug end of the cable to the audio output of the computer. At the end of the cable with two plugs, connect one of the plugs to the middle (white, AUDIO LEFT) input terminal. Connect the other plug to the bottom (red, AUDIO RIGHT) input terminal.

To use the computer turn on the computer and the AVS-1500. Press **VIDEO 2 button 12**



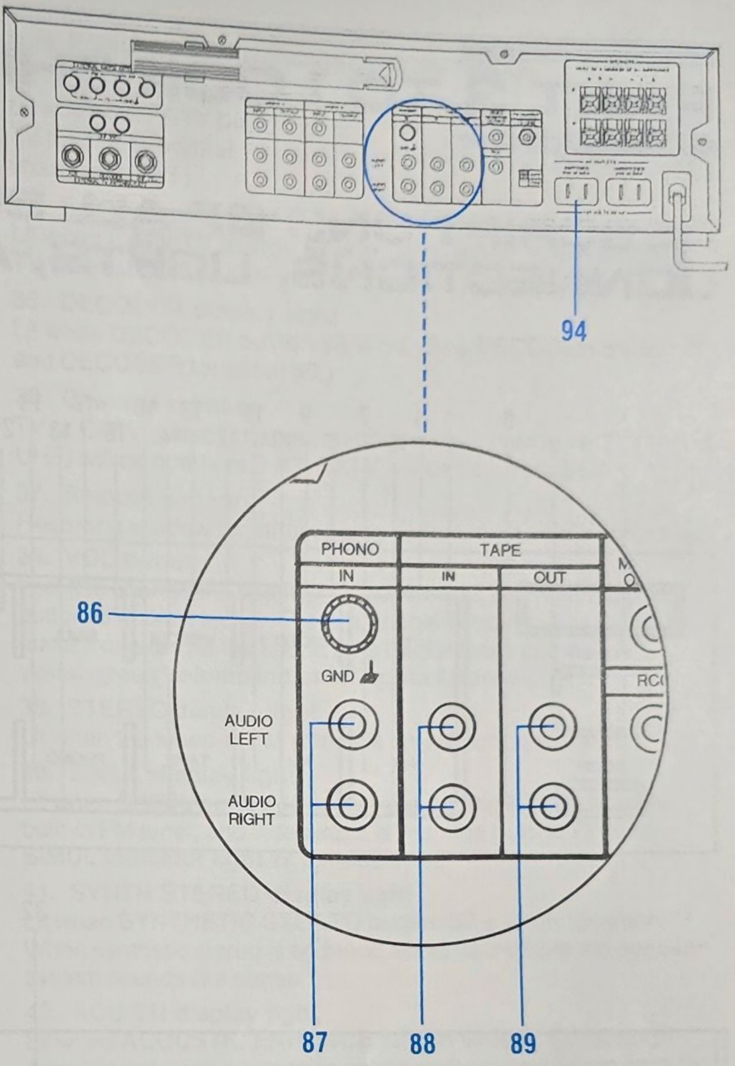
CONNECTING YOUR TAPE DECK

Use the shielded audio cable with US pin plug (RCA plug) connectors for all connections. You will need four cables, or you can use the two double cables supplied with the AVS-1500.

Connect left audio output of your tape deck to upper (white, AUDIO LEFT) **TAPE IN terminal 88.** Connect right audio output of your tape deck to the bottom (red, AUDIO RIGHT) **TAPE IN terminal 88.** Connect left audio input of your tape deck to middle (white, AUDIO LEFT) **TAPE OUT terminal 89.** Connect right audio input of your tape deck to bottom (red, AUDIO RIGHT) **TAPE OUT terminal 89.**

You may want to use the **AC outlet switched 94** as a convenient way to power your tape deck. Plug your tape deck into **AC outlet switched 94.** When you turn off the AVS-1500 (**POWER button 1**) the tape deck is automatically switched off.

NOTE: Some tape decks feed the recording signal back out the output terminals. In this case headphones used in the TAPE position will allow you to monitor the audio being recorded.



CONNECTING YOUR TURNTABLE

The AVS-1500 is designed for a turntable with a moving magnet type magnetic cartridge. That is the most common type of cartridge.

A moving coil type magnetic cartridge has a lower output level than the AVS-1500 is designed for. Using a moving coil magnetic cartridge will reduce the volume and can alter the sound.

A ceramic cartridge has too high an output level to be suitable for the AVS-1500. Using a ceramic cartridge would "overdrive" the amplifier. The sound could be distorted.

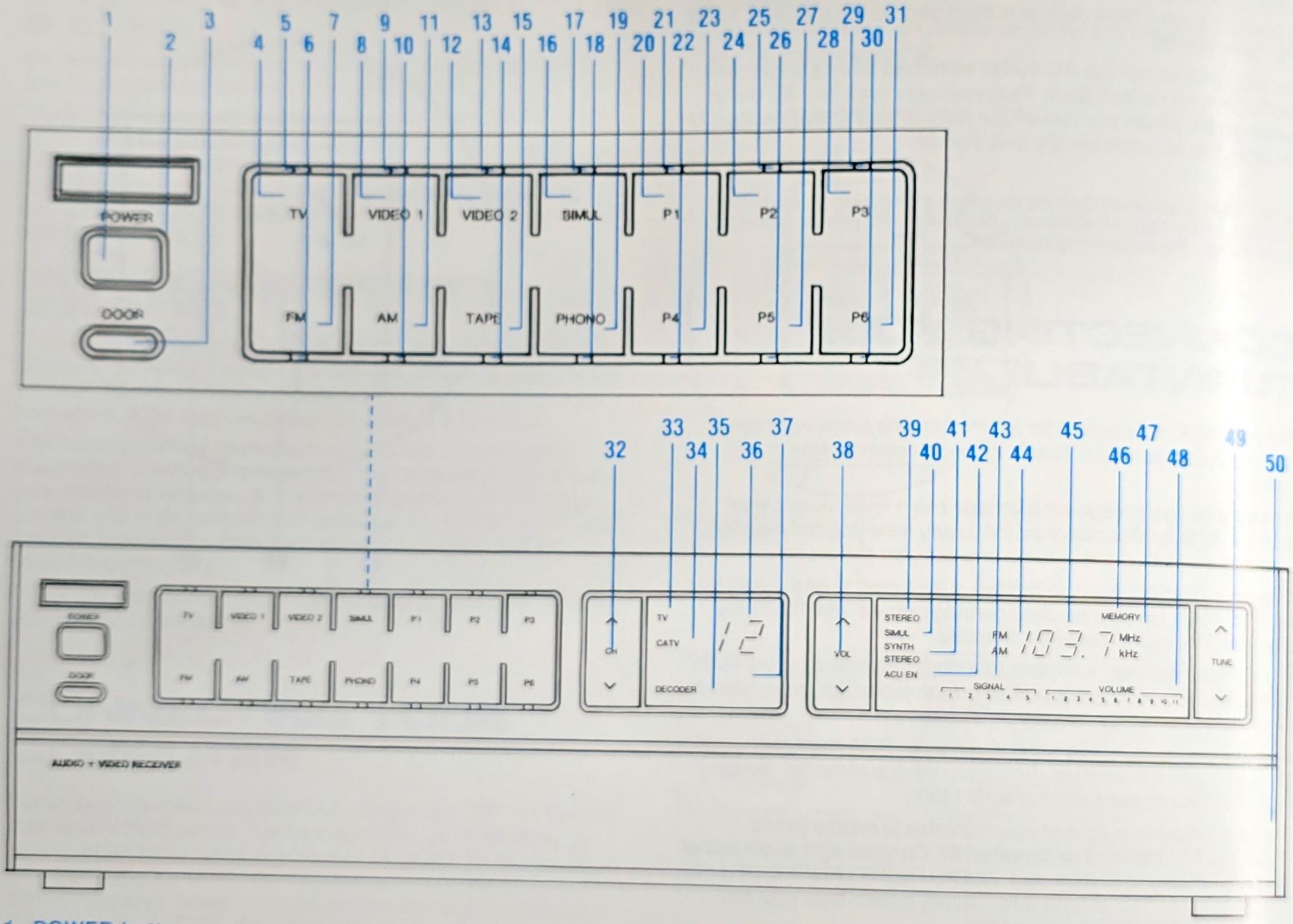
You can connect your turntable (phonograph) directly to the AVS-1500. The AVS-1500 has a built-in pre-amplifier. You don't need a separate pre-amplifier for your turntable.

Use shielded audio cable with US pin plug (RCA plug) connectors to make audio connections. (You can use one of the two double audio cables supplied with the AVS-1500.)

Connect left audio output of your turntable to middle (white, AUDIO LEFT) **PHONO IN terminal 87.** Connect right audio output of your turntable to bottom (red, AUDIO RIGHT) **PHONO IN terminal 87.** Connect the ground wire (usually green) from your turntable to **PHONO GND terminal 86.**

PART 3 TO LOOK THINGS UP

DESCRIPTIONS OF ALL BUTTONS, SWITCHES CONNECTIONS, LIGHTS, AND CONTROLS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VIDEO 1
VIDEO 2
SIMUL
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P2
P3
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CH
TV
CATV
DECODER
12
VOL
STEREO
SIMUL
SYNTH
STEREO
ACU EN
FM
AM
103.7
MHz
kHz
MEMORY
SIGNAL
VOLUME
TUNE
AUDIO + VIDEO RECEIVER

1. POWER button

Press and release to turn power on. Press again to turn power off. When the power is on the red **Power indicator light 2**, glows red around the **POWER button 1**. Power can also be turned on or off using the remote control **POWER button - R11**. When power comes on, whatever was on when power was turned off (TV channel, AM tuner, etc.) will also be on and at the same setting as when the power was off.

If the AVS-1500 is unplugged or disconnected for a day or more the stored control settings and P button settings may be lost.

2. Power indicator light

Lit when power to the AVS-1500 is on.

3. DOOR button

Press to open lower control compartment.

4. TV button

Press to select the TV tuner as the signal source. The sound from other things, FM, phonograph, etc. automatically turns off. When on, the **TV indicator light 5** will be lit. The channel number will be displayed in the **TV channel display 36**.

5. TV indicator light

Lit when the TV tuner is on.

6. FM indicator light

Lit when FM is selected (input is from the built-in FM tuner.)

7. FM button

Press to select FM, (select the built-in FM tuner as the source of input.)

8. VIDEO 1 button

Press to select VIDEO 1, (select the device connected to VIDEO 1 audio and video inputs as the source of input.)

9. VIDEO 1 indicator light
Lit when VIDEO 1 is on, (input is from VIDEO 1 inputs.)

10. AM indicator light
Lit when AM is on, (input is from the built-in AM tuner.)

11. AM button
Press to select AM, (select the built-in AM tuner as the source of audio input.)

12. VIDEO 2 button
Press to select VIDEO 2, (select the devices connected to VIDEO 2 audio and video inputs as the source of input.)

13. VIDEO 2 indicator light
Lit when VIDEO 2 is on, (input is from VIDEO 2 inputs.)

14. TAPE indicator light
Lit when tape is on, (input is from tape audio inputs.)

15. TAPE button
Press to select tape, (select audio input from device connected to tape audio inputs.)

16. SIMUL button
Press to select both TV and FM, (select video input from the built-in TV tuner, and audio input from the built in FM tuner.) Use for simulcasts, when a TV station and an FM station broadcast the same program simultaneously. The video comes from the TV broadcast and the audio comes from the stereo FM broadcast.

17. SIMUL indicator light
Lit when SIMUL is on, (audio is from the built in FM tuner, and video input is from the built-in TV tuner.) **SIMUL display light 40** will be lit.

18. PHONO indicator light
Lit when PHONO is on, (audio input is from the **PHONO IN terminals 87.**)

19. PHONO button
Press to select phonograph, (select audio input from the **PHONO IN terminals 87.**)

20. P1 button
Press to select FM or AM station stored in memory location P1.

21. P1 indicator light
Lit when FM or AM station P1 is on.

22. P4 indicator light
Lit when FM or AM station P4 is on.

23. P4 button
Press to select FM or AM station stored in memory location P4.

24. P2 button
Press to select FM or AM station stored in memory location P2.

25. P2 indicator light
Lit when FM or AM station P2 is on.

26. P5 indicator light
Lit when FM or AM station P5 is on.

27. P5 button
Press to select FM or AM station stored in memory location P5.

28. P3 button
Press to select FM or AM station stored in memory location P3.

29. P3 indicator light
Lit when FM or AM station P3 is on.

30. P6 indicator light
Lit when FM or AM station P6 is on.

31. P6 button
Press to select FM or AM station stored in memory location P6.

32. CH button
Press to change the TV channel. Press top (∧) to change to a higher channel number. Press bottom (∨) to change to a lower channel number. Press and release to change one number at a time. Press and hold to change channels rapidly.

33. TV display light
Lit when **CATV/TV button 67** is in "out" position. When lit built-in TV tuner is in normal TV operation (VHF channels 2-13 and UHF channels 14-83.)

34. CATV display light
Lit when **CATV/TV Button 67** is in "in" position. When lit built-in TV tuner will tune CATV (cable) channels 2 through 64.

35. DECODER display light
Lit when **DECODER button 68** is on. (See **DECODER button 68** and **DECODER terminal 80.**)

36. Channel number
TV or CATV (cable) channel number is displayed here. (TV VHF & UHF) will be numbers 2-83. CATV will be numbers 2-64.

37. Remote sensor
Receiving window for infrared signals from the remote control unit.

38. VOL button
Press to change the speaker volume. Press and hold top (∧) of button to make it louder. Press and hold bottom (∨) of button to make it quieter. As the sound gets louder more of the yellow-green **Volume indicator lights 48** are lit.

39. STEREO display light
Lit when the tuned-in FM station is broadcasting in stereo.

40. SIMUL display light
Lit when **SIMUL button 16** is pressed, (audio input is from the built-in FM tuner, and video input is from the built-in TV tuner.) **SIMUL indicator light 17** will also be lit.

41. SYNTH STEREO display light
Lit when **SYNTHETIC STEREO button 62** is in "in" position. When synthetic stereo is on mono audio heard from the speaker system sounds like stereo.

42. ACU EN display light
Lit when **ACOUSTIC ENHANCE button 60** is in "in" position. Acoustic enhance electronics enhance the sound heard from the speaker system to simulate concert hall sound.

43. SIGNAL indicator lights
The stronger the FM or AM signal, the more red lights are lit.

44. FM/AM display light
FM or AM is lit to show which radio band is selected.

45. Radio station frequency
The FM or AM radio station frequency is displayed. In FM the numbers go from 87.9 MHz to 107.9 MHz in odd steps of 0.2. In AM the numbers go from 530 kHz to 1620 kHz in steps of 10.

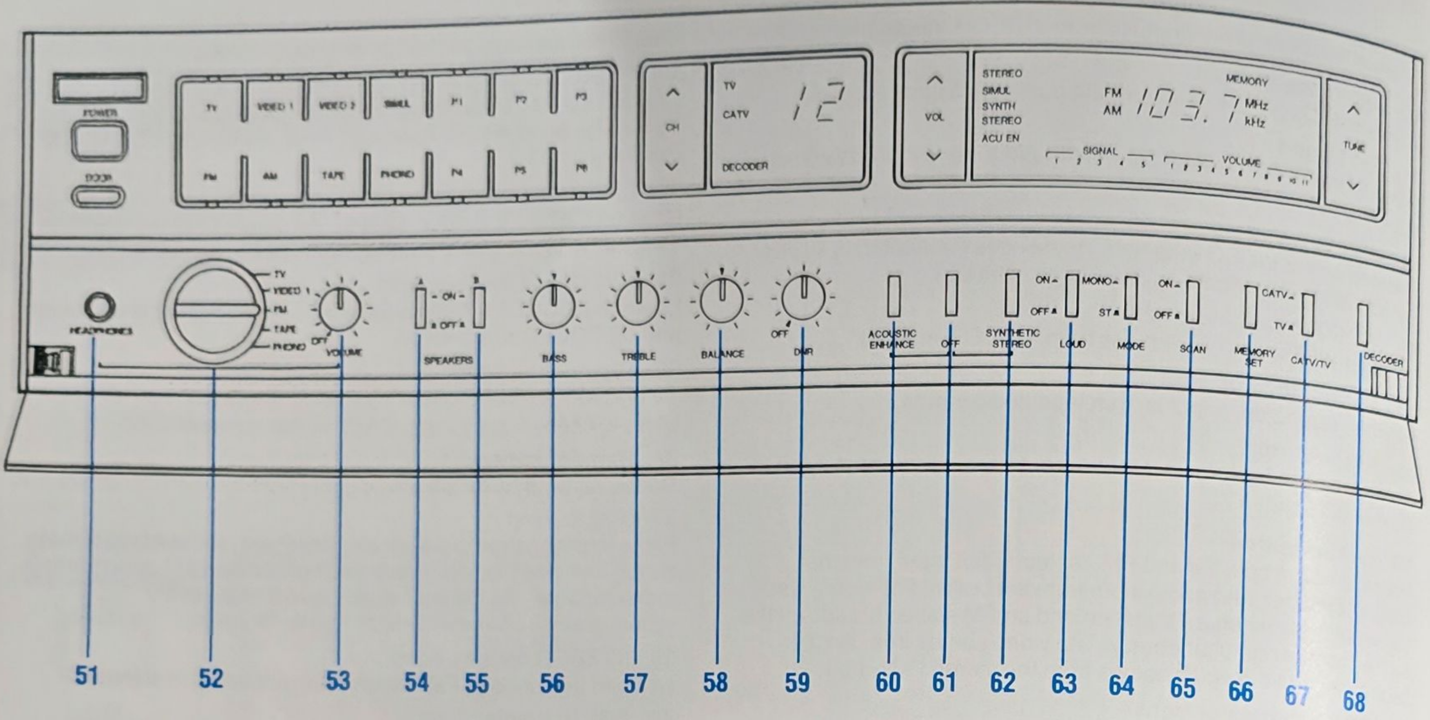
46. MEMORY display light
Lit when **MEMORY SET button 66** is pressed. Stays lit for about 5 seconds. While lit press any **P button,** on unit or remote, to store an FM or AM station in memory.

47. MHz-kHz
MHz or kHz is lit to complete the frequency display. (FM band MHz, or AM kHz.)

48. VOLUME indicator lights
The louder the volume the more lights are lit.

49. TUNE button
Press to change the FM or AM station. Press the top (∧) of the button to change to a higher frequency. Press the bottom (∨) of button to change to a lower frequency. Press and release to the button to change to a lower frequency. Press and hold to change station change one step at a time. Press and hold to change station numbers quickly. FM changes in odd steps of 0.2 MHz, AM changes in steps of 10 kHz.

50. Control panel door
Press **DOOR button 3** to open for access to lower controls. Close when not adjusting controls.


POWER
DOOR
TV
VIDEO 1
VIDEO 2
SIMUL
P1
P2
P3
FM
AM
TAPE
PHONO
P4
P5
P6
CH
TV
CATV
12
DECODER
VOL
STEREO
SIMUL
SYNTH
STEREO
ACU EN
FM
AM
103.7
MEMORY
MHz
kHz
SIGNAL
1 2 3 4 5
VOLUME
1 2 3 4 5 6 7 8 9 10 11
TUNE
HEADPHONES
TV
VIDEO 1
FM
TAPE
PHONO
OFF
VOLUME
A
B
ON
OFF
SPEAKERS
BASS
TREBLE
BALANCE
OFF
DNR
ACOUSTIC ENHANCE
OFF
SYNTHETIC STEREO
ON
OFF
LOUD
MONO
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MODE
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SCAN
MEMORY SET
CATV
TV
CATV/TV
DECODER
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51. HEADPHONES jack
Plug stereo headphones in here. Use headphones with a ¼" stereo phone plug. (Headphones should have a minimum of 8 ohms impedance.)

52. HEADPHONE MODE SELECTOR switch
Turn to select TV, VIDEO 1, FM, TAPE or PHONO audio input to the headphones. Headphones have a separate amplifier and volume control. You can listen to a different audio source on the headphones than the input selected with the selection buttons on the AVS-1500. Headphone sound is not affected by special audio controls.

53. VOLUME control
Turn clockwise to turn on headphones and to increase headphone volume. You can make the control pop out for easier turning by pushing in and releasing it. **Be sure to push in again and release to shorten the control so it doesn't hit the control panel door as you close it.**

54. SPEAKERS A button
Press and release to switch to or from ON (in position) to OFF (out position). When ON speakers connected to "A" speaker terminals will be on.

55. SPEAKERS B button
Press and release to switch to or from ON, (in position) to OFF, (out position). When ON speakers connected to "B" speaker terminals will be on.

56. BASS control
Turn to adjust bass tones. Straight up is normal. Turn clockwise to increase bass. Turn counterclockwise to decrease bass. You can make the control pop out for easier turning, by pushing in and releasing it. **Be sure to push in again and release to shorten the control so it doesn't hit the control panel door as you close it.**

57. TREBLE control
Turn to adjust treble tones. Straight up is normal. Turn clockwise to increase treble. Turn counterclockwise to decrease treble. You can make the control pop out for easier turning, by pushing in and releasing it. **Be sure to push in again and release to shorten the control so it doesn't hit the control panel door as you close it.**

58. BALANCE control
Turn to adjust speaker balance. Straight up is normal. Adjust so the right speaker(s) sound as loud as the left speaker(s). You can make the control pop out for easier turning, by pushing in and releasing it. **Be sure to push in again and release to shorten the control so it doesn't hit the control panel door as you close it.**

59. DNR™* control
Turn clockwise to turn on and adjust Dynamic Noise Reduction (DNR™). Turning clockwise reduces tape hiss and other unwanted high frequency sounds you may notice with better speakers. You can make the control pop out for easier turning, by pushing in and releasing it. **Be sure to push in again and release to shorten the control so it doesn't hit the control panel door as you close it.**

60. ACOUSTIC ENHANCE button
Press in to get enhanced audio sound as in a concert hall. When on **ACU EN display light 42** will be lit. To turn off press **OFF button 61** or **SYNTHETIC STEREO button 62.** Controls sound to speakers only.

61. OFF button
Press to turn off **ACOUSTIC ENHANCE button 60** or **SYNTHETIC STEREO button 62.**

62. SYNTHETIC STEREO button
Press to turn synthetic stereo on. **SYNTH STEREO display light 41** will be lit. Makes mono audio sound like stereo. Controls sound to speakers only.

*DNR™ is a registered trademark of National Semiconductor

63. LOUD button

Press and release for LOUD. LOUD changes high and low frequencies. It makes low volume recordings more pleasing because it adjusts the frequency response to match that of the human ear. In the IN position LOUD is on. In the OUT position LOUD is off.

64. MODE button

Press and release to choose between MONO and STereo. Normally leave at STereo. At STereo (out position) left and right audio signals go to left and right speakers. At MONO (in position) sound is blended to both left and right speakers. **STEREO display light 39** goes out. Controls only what you hear over the speakers. Has no effect on headphones or audio output signals.

65. SCAN button

When **SCAN button 65** is on (in position) press and release **TUNE button 49** (or **TUNE button R14**); **CH button 32** (or **CH button R12**), tuner will stop at the next strong signal. When **SCAN button 65** is off (out position) press and release **TUNE button 49** to step 0.2 MHz in FM or 10 kHz in AM or **CH button 32** to step one TV channel number.

66. MEMORY SET button

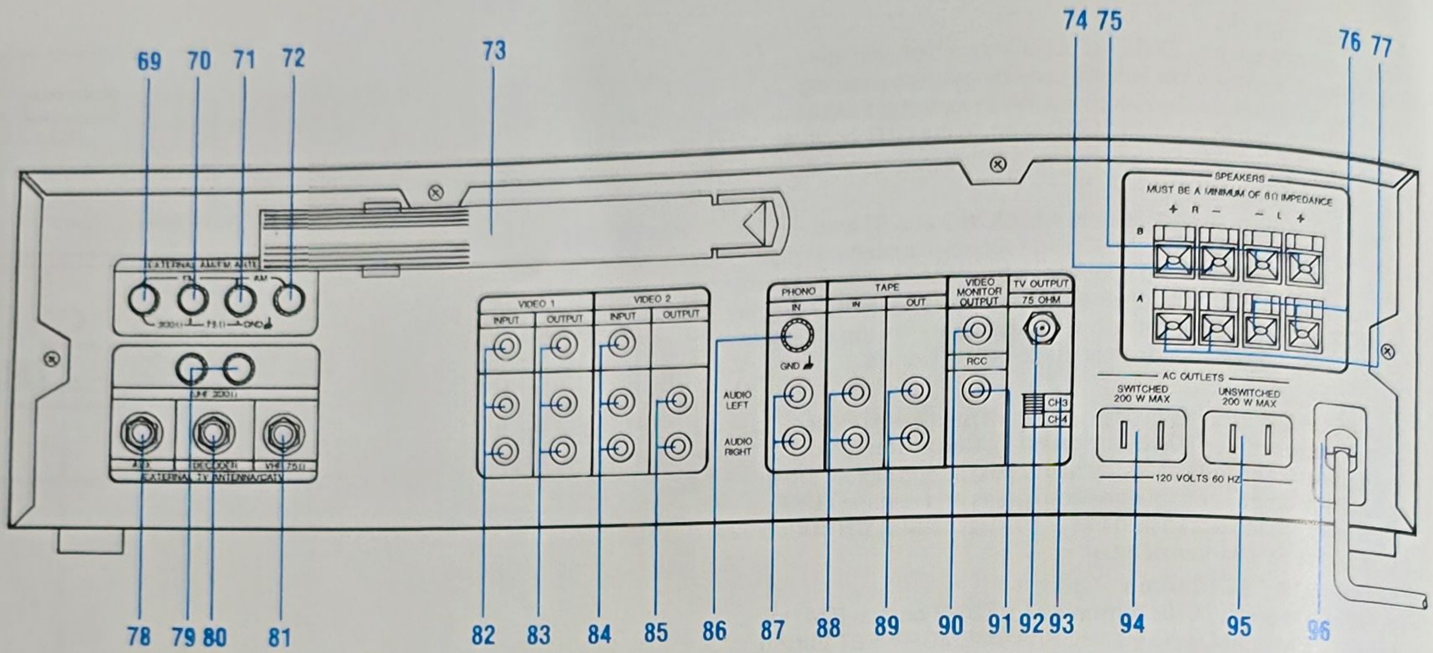
In FM or AM press **TUNE button 49** (or **TUNE button R14**) to select an FM or AM radio station. Press **MEMORY SET button 66. MEMORY display light 46** will light up for about 5 seconds. While lit press one of the **P1** to **P6** buttons to store that station frequency in the **P button.** You can store up to 6 FM and 6 AM frequencies.

67. CATV/TV button

Press in and release for CATV (cable), press again and release to leave the button out for normal TV frequencies. **CATV/TV button 67** adjusts the built-in TV tuner to receive the full range of CATV (cable) frequencies.
When in TV (out) position, the TV tuner receives VHF and UHF broadcast stations. **TV display light 33** is lit.
When in CATV (in) position, the TV tuner automatically assigns the CATV (cable) channels to number 2-64. **CATV display light 34** is lit.

68. DECODER button

Press to adjust antenna connections and to connect decoder for some pay TV applications. When on, **DECODER display light 35** is lit. When **DECODER button 68** is on, the RF input to the AVS-1500 is from the **AUX antenna terminal 78**; also antenna or CATV (cable) connected to **VHF 75 ohm terminal 81** is available at **DECODER terminal 80.** Use depends on your cable/decoder requirements. See **DECODER terminal 80.**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EXTERNAL AM/FM ANTENNA
FM
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300Ω
75Ω
GND
UHF 300Ω
AUX
DECODER
VHF 75Ω
EXTERNAL TV ANTENNA/CATV
VIDEO 1
VIDEO 2
INPUT
OUTPUT
INPUT
OUTPUT
AUDIO LEFT
AUDIO RIGHT
PHONO
IN
GND
TAPE
IN
OUT
VIDEO MONITOR OUTPUT
RCC
TV OUTPUT
75 OHM
CH3
CH4
SPEAKERS
MUST BE A MINIMUM OF 8Ω IMPEDANCE
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− L +
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AC OUTLETS
SWITCHED 200 W MAX
UNSWITCHED 200 W MAX
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69. FM 300 ohm terminal
Connect 300 ohm (twin lead) FM antenna to this terminal and to **FM 300 - 75 ohm terminal 70.**

70. FM 300 - 75 ohm terminal
Connect 300 ohm (twin lead) FM antenna to this terminal and to **FM 300 ohm terminal 69.**
Connect center wire of 75 ohm (coaxial cable) FM antenna to this terminal and shield of 75 ohm (coaxial cable) to **FM 75 ohm GND terminal 71.**

71. FM 75 ohm GND terminal
Connect outside shield (conductor) of 75 ohm coaxial cable FM antenna lead to this terminal. Connect center conductor of 75 ohm coaxial cable FM antenna lead to **FM 300-75 ohm terminal 70.** Connect ground of 2-wire AM external antenna to this terminal.

72. AM antenna terminal
Connect other lead of AM antenna to this terminal. (Note: there is a built-in **AM antenna 73**, connections 71 and 72 are for outside AM antenna connection.)

73. AM antenna
This AM antenna is already connected. The antenna is adjustable for better reception. It will swing out from the back of the receiver horizontally to a bit past straight out.

74. Speaker B right (+ and −) terminals
Connect right speaker of stereo pair B to these terminals. (See page 28 for polarity of speaker connections.)

75. Speaker B left (+ and −) terminals
Connect left speaker of stereo pair B to these terminals. (See page 28 for polarity of speaker connections.)

76. Speaker A left (+ and −) terminals
Connect left speaker of stereo pair A to these terminals. (See page 28 for polarity of speaker connections.)

77. Speaker A right (+ and −) terminals
Connect right speaker of stereo pair A to these terminals. (See page 28 for polarity of speaker connections.)

78. AUX antenna terminal
Use for an auxilliary RF input. If you have CATV (cable) connected to **VHF 75 ohm terminal 81** you can still connect your outside antenna here. Or use to connect an auxilliary video device with an RF output, such as a videogame, or computer. Or use for CATV (cable) decoder or broadcast pay TV decoder. Press **DECODER button 68** to select between **AUX antenna terminal 78** and **VHF 75 ohm terminal 81** as RF input. For connections use 75 ohm coaxial cable with standard "F" connectors.

79. UHF 300 ohm terminals
Connect UHF antenna here. Use 300 ohm (twin lead). (If your antenna is a combined VHF-UHF antenna with 75 ohm coaxial cable, you will need a splitter. See page 30.)

80. DECODER terminal
Use to connect AVS-1500 to subscription TV decoder (unscrambler). (If your CATV (cable) carries regular cable TV channels **and** a special pay-TV channel that comes over the cable scrambled and needs a special decoder box, connect the cable to **VHF 75 ohm terminal 81,** connect **DECODER terminal 80** to the input of the special decoder box, and connect the cable from the output of decoder box to **AUX antenna terminal 78.**)

81. VHF 75 ohm terminal
Connect your VHF TV antenna here. We recommend an outdoor antenna or use this terminal for CATV (cable). Use 75 ohm coaxial cable with standard "F" connectors. (See page 30 for antenna connections.)

82. VIDEO 1 INPUT terminals
Connect stereo videocassette or other video device to **VIDEO 1 INPUT terminals 82** and **VIDEO 1 OUTPUT terminals 83.** Connect top (yellow) input terminal to video output of the video device. Use 75 ohm coaxial cable with US pin plug (RCA plug) connectors. Connect middle (white) input terminal to audio left output of the video device. Connect bottom (red) input terminal to audio right output of the video device. For audio connections use shielded audio cable with US pin plug (RCA plug) connectors.

83. VIDEO 1 OUTPUT terminals
Connect stereo videocassette recorder or other video device to **VIDEO 1 OUTPUT terminals 83** and **VIDEO 1 INPUT terminals 82.** Connect top (yellow) output terminal to video input of the video device. Use 75 ohm coaxial cable with US pin plug (RCA plug) connectors. Connect middle (white) output terminal to audio left input of the video device. Connect bottom (red) output terminal to audio right input of the video device. For audio connections use shielded audio cable with US pin plug (RCA plug) connectors.

84. VIDEO 2 INPUT terminals
Connect a stereo videodisc player or a videocassette recorder (for playback only) or other video device to **VIDEO 2 INPUT terminals 84** and **VIDEO 2 OUTPUT terminals 85.** Connect top (yellow) input terminal to video output of the video device. Use 75 ohm coaxial cable with US pin plug (RCA plug) connectors. Connect middle (white) input terminal to audio left output of the video device. Connect bottom (red) input terminal to audio right output of the video device. For audio connections use shielded audio cable with US pin plug (RCA plug) connectors.

85. VIDEO 2 OUTPUT terminals (audio only)
Connect stereo tape recorder or another audio device to **VIDEO 2 OUTPUT terminals 85.** Connect middle (white) output terminal to audio left input of the audio device. Connect bottom (red) output terminal to audio right input of the audio device. For audio connections use shielded audio cable with US pin plug (RCA plug) connectors.

86. PHONO GND terminal
Connect ground wire (usually green) from your turntable to this terminal.

87. PHONO IN terminals
Use a turntable with a magnetic cartridge. Connect top (white, audio left) input terminal to the audio left output of your turntable. Connect bottom (red, audio right) input terminal to the audio right output of your turntable. Use shielded audio cable with US pin plug (RCA plug) connectors.

88. TAPE IN terminals
Connect top (white, audio left) input terminal to the audio left output (line output) terminal of your tape deck. Connect bottom (red, audio right) input terminal to the audio right output (line output) terminal of your tape deck. Use shielded audio cable with US pin plug (RCA plug) connectors.

89. TAPE OUT terminals
Connect top (white, audio left) output terminal to the audio left input (line input) terminal of your tape deck. Connect bottom (red, audio right) output terminal to the audio input (line input) terminal of your tape deck. Use shielded audio cable with US pin plug (RCA plug) connectors.

90. VIDEO MONITOR OUTPUT terminal
Connect to your video monitor video input terminal. Use 75 ohm coaxial cable with US pin plug (RCA plug) connectors. Set your monitor for 75 ohm termination.

91. RCC terminal
Connect RCC (remote control connector) to the RCC connection of your video monitor. (The AVS-1500 will automatically turn the monitor on when VIDEO 1, VIDEO 2, TV or SIMUL are selected.) Use a two conductor cable with 3.5 mm mini plug connectors.

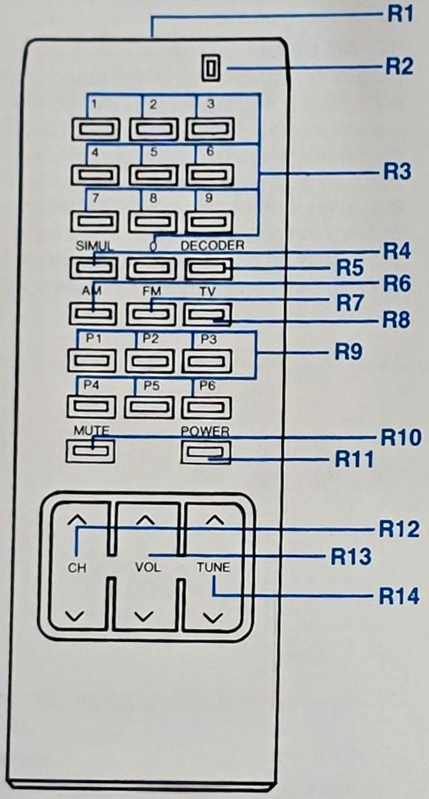
92. TV OUTPUT terminal
Connect to VHF antenna connection of your TV receiver. Use 75 ohm coaxial cable supplied. Set TV receiver to YOUR VIDEO CHANNEL (3 or 4).

93. CH3 CH4 switch
This switch changes the RF output at **TV OUTPUT terminal 92** between channels 3 and 4 (YOUR VIDEO CHANNEL). Use whichever channel is **not** being used for broadcast in your area to avoid interfering signals.

94. AC outlet switched
120 volts 60 Hz AC is available here. Maximum capacity is 200 watts. Power to this outlet is switched on and off by **POWER button 1** and **POWER button R11.**

95. AC outlet unswitched
120 volts 60 Hz AC is available here. Maximum capacity is 200 watts.

96. AC power
Plug in to 120 volts AC 60 Hz power. Power consumption of the AVS-1500 is 150 watts, plus two convenience outlets of 200 watts maximum each for a maximum total of 550 watts. The AC power cord has a polarized plug. One blade of the plug is wider than the other so it can plug into an outlet only one way. If it won't fit into the outlet, turn the plug over. If it still won't fit, have an electrician replace the obsolete outlet. If you use an extension cord be sure the extension cord has both a polarized plug and a polarized socket. Don't try to defeat this safety feature.


R1
R2
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9
R3
SIMUL
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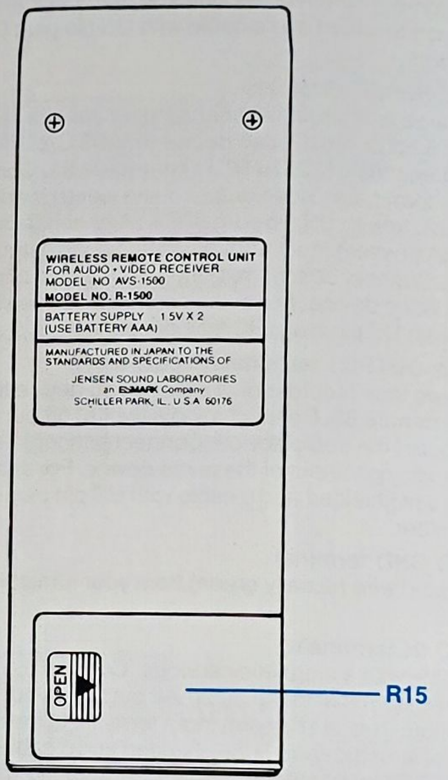
DECODER
R4
R5
R6
AM
FM
TV
R7
R8
P1
P2
P3
R9
P4
P5
P6
MUTE
POWER
R10
R11
CH
VOL
TUNE
R12
R13
R14


WIRELESS REMOTE CONTROL UNIT
FOR AUDIO • VIDEO RECEIVER
MODEL NO AVS-1500
MODEL NO. R-1500
BATTERY SUPPLY 1.5V X 2
(USE BATTERY AAA)
MANUFACTURED IN JAPAN TO THE
STANDARDS AND SPECIFICATIONS OF
JENSEN SOUND LABORATORIES
an ESMARK Company
SCHILLER PARK, IL. U.S.A. 60176
OPEN
R15

R1 Infrared transmitting port
To use the remote control, point the **Infrared transmitting port R1** at the **Remote sensor 37** on the AVS-1500.

R2 Indicator light
Lights and flickers to show you a signal is being transmitted.

R3 Number buttons
Press **Number buttons R3** 0-9 to select a TV channel. For channels 2 to 9 press 0 first, or press the number and wait two seconds. For channels 10 through 83 press the number. For CATV (cable) use channels 2-64.

R4 SIMUL button
(Works the same as **SIMUL button 16**.)

R5 DECODER button
(Works the same as **DECODER button 68**.)

R6 AM button
(Works the same as **AM button 11**.)

R7 FM button
(Works the same as **FM button 7**.)

R8 TV button
(Works the same as **TV button 4**.)

R9 P buttons
Press P1 through P6 to select the FM or AM station stored in the "P" memory location.

R10 MUTE button
Press **MUTE button R10** to turn off (mute) the sound. Press again to turn the sound back on. Avoid turning power off while MUTE is on, later you may not know why sound does not come on. Any adjustment of the **VOL button 38** or **VOL button R13** will also turn the sound back on.

R11 POWER button
(Works the same as **POWER button 1**.)

R12 CH button
(Works the same as **CH button 32**.)

R13 VOL button
(Works the same as **VOL button 38**.)

R14 TUNE button
(Works the same as **TUNE button 49**.)

R15 Battery compartment cover
Cover on back of remote unit opens so you can replace the batteries. To open slide **Battery compartment cover R15** in direction of arrow.

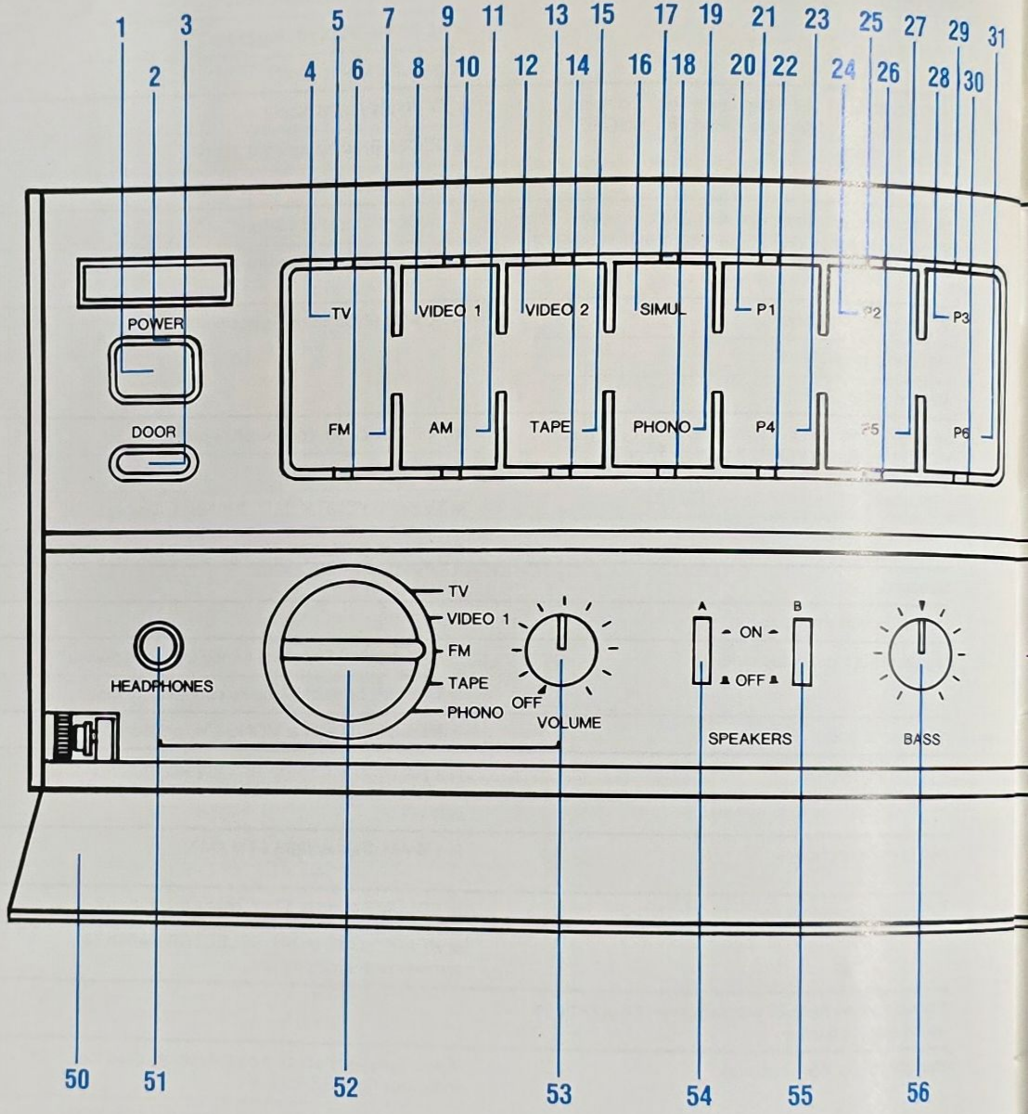
TROUBLESHOOTING

SYMPTOM	CHECK	CURE
No power.	Is **Power Indicator light 2** out?	Press **Power button 1.**
	Is **AC power 96 cord** plugged in?	Plug in.
	Does outlet have power?	Check fuse, call electrician.
UHF TV channels 14-83 don't work, hissing noise from speakers and snow on TV screen. No CATV (cable) connection.	Is **TV display light 33** out?	Press **CATV/TV button 67.**
	Is **DECODER display light 35** lit?	Press **DECODER button 68.**
	Are UHF antenna connections loose?	Fix connections.
Cannot tune cable channels, with CATV (cable) connected to either **VHF 75 ohm terminal 81** or **AUX antenna terminal 78**	Is **CATV display light 34** out?	Press **CATV/TV button 67.**
	Is **DECODER display light 35** out?	Press **DECODER button 68** only if CATV (cable) is connected to **AUX antenna terminal 78.**
TV tuner skips stations.	Is **SCAN button 65** on (in position)?	Press to turn SCAN off.
FM tuner skips stations.		
AM tuner skips stations.		
No sound or picture on TV receiver when you press **VIDEO 1 button 8, VIDEO 2 button 12** or **TV button 4**	Is input device on, connected or running?	Operate input device.
	Is TV receiver on?	Turn TV on.
	Is TV set to YOUR VIDEO CHANNEL (3 or 4)?	Set TV channel.
	Are connections loose or off?	Fix connections.
No sound.		See No Sound page 9.
Sound turns off while playing.		See Sound Turns Off page 17.
High notes are lost or too quiet.	Is **DNR control 59** on and turned too far clockwise?	Turn **DNR control 59** counterclockwise.
	Is **TREBLE control 57** too far counterclockwise?	Turn **TREBLE control 57** clockwise.
No stereo sound.	Is **MODE button 64** at MONO ("in" position)?	Press and release for Stereo ("out" position).
P button will not set.	Did you press **MEMORY SET button 66,** then press the P button while the **MEMORY display light 46** was lit?	Tune station, press **MEMORY SET button 66,** within a few seconds press the P button.
No FM on headphones.	Is **FM/AM display light 44** at AM?	Press **FM button 7** on main control panel, then you can return main control to what had been selected.
No sound on headphones.	Is **VOLUME control 53** off, or at a low setting?	Turn **VOLUME button 53** on or turn up.
	Is **HEADPHONE MODE SELECTOR switch 52** turned to the wrong input?	Turn to right input.
Stereo display light 39 stays on even though mono sound is being played.		Okay.
Remote control does not work.	When you press a button on the remote does the **Indicator light R2** flicker?	If no flicker replace the batteries.
	Did you point the remote away from the AVS-1500?	Point **Infrared transmitting port R1** toward **Remote sensor 37.**
	Are you farther than 10 m (32 ft.) from the AVS-1500?	Move closer.

NAMES OF ALL BUTTONS, SWITCHES, CONNECTIONS, LIGHTS AND CONTROLS

UPPER CONTROL PANEL

1. POWER button
2. Power indicator light
3. DOOR button
4. TV button
5. TV indicator light
6. FM indicator light
7. FM button
8. VIDEO 1 button
9. VIDEO 1 indicator light
10. AM indicator light
11. AM button
12. VIDEO 2 button
13. VIDEO 2 indicator light
14. TAPE indicator light
15. TAPE button
16. SIMUL button
17. SIMUL indicator light
18. PHONO indicator light
19. PHONO button
20. P1 button
21. P1 indicator light
22. P4 indicator light
23. P4 button
24. P2 button
25. P2 indicator light
26. P5 indicator light
27. P5 button
28. P3 button
29. P3 indicator light
30. P6 indicator light
31. P6 button
32. CH button
33. TV display light
34. CATV display light
35. DECODER display light
36. Channel number
37. Remote sensor
38. VOL button
39. STEREO display light
40. SIMUL display light
41. SYNTH STEREO display light
42. ACU EN display light
43. SIGNAL indicator lights
44. FM/AM display light
45. Radio station frequency
46. MEMORY display light
47. MHz - kHz
48. VOLUME Indicator lights
49. TUNE button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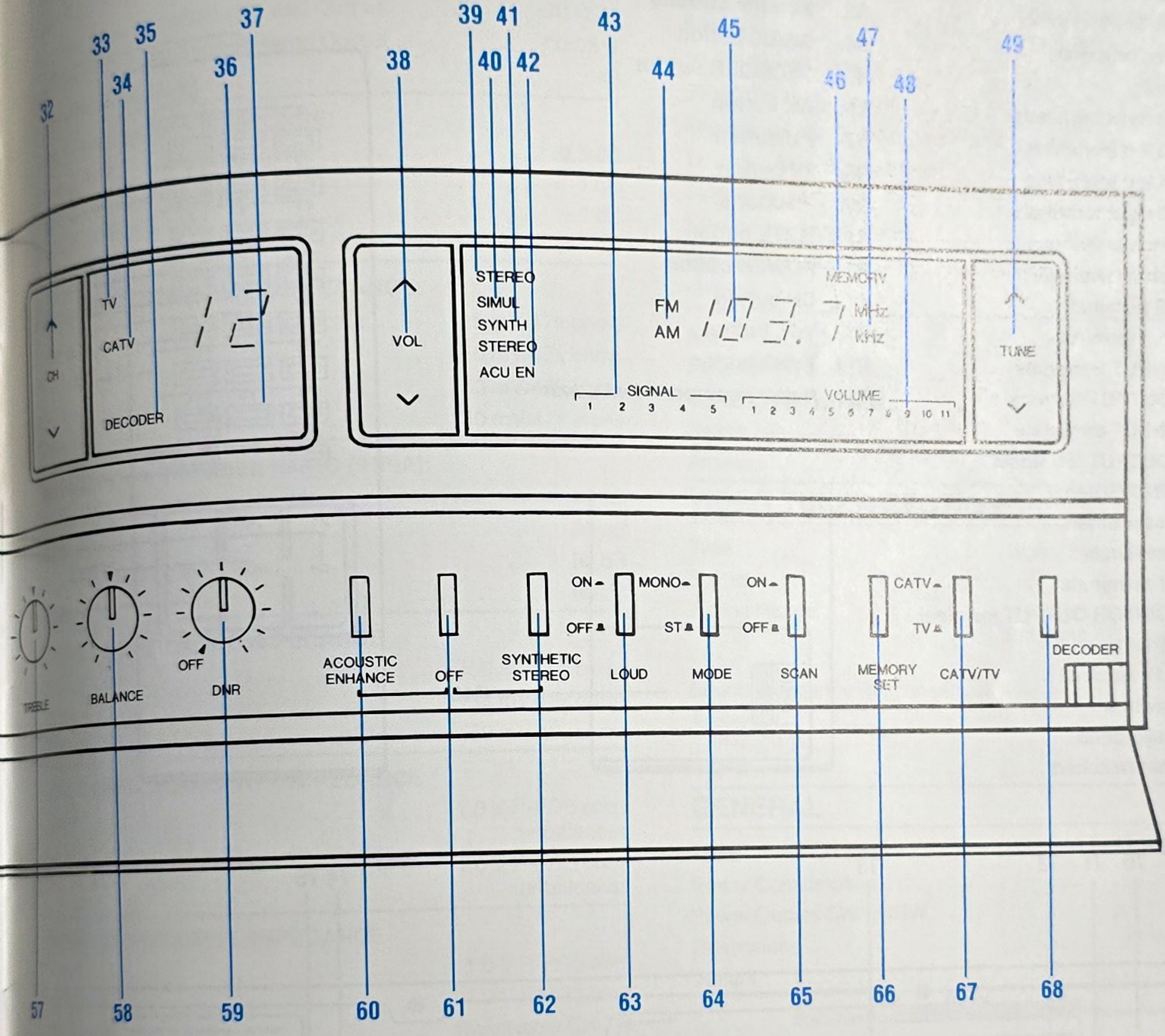
21
22
23
24
25
26
27
28
29
30
31
POWER
DOOR
TV
VIDEO 1
VIDEO 2
SIMUL
P1
P2
P3
FM
AM
TAPE
PHONO
P4
P5
P6
HEADPHONES
TV
VIDEO 1
FM
TAPE
PHONO
OFF
VOLUME
A
B
ON
OFF
SPEAKERS
BASS
50
51
52
53
54
55
56

LOWER CONTROL PANEL

50. Control panel door
51. HEADPHONES jack
52. HEADPHONE MODE SELECTOR switch
53. VOLUME control
54. SPEAKERS A button
55. SPEAKERS B button
56. BASS control
57. TREBLE control
58. BALANCE control
59. DNR™* control
60. ACOUSTIC ENHANCE button
61. OFF button
62. SYNTHETIC STEREO button
63. LOUD button
64. MODE button
65. SCAN button
66. MEMORY SET button
67. CATV/TV button
68. DECODER button

*DNR is a registered trademark of National Semiconductor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49
TV
CATV
DECODER
CH
12
VOL
STEREO
SIMUL
SYNTH
STEREO
ACU EN
FM
AM
103.7
MEMORY
MHz
kHz
SIGNAL
1 2 3 4 5
VOLUME
1 2 3 4 5 6 7 8 9 10 11
TUNE
TREBLE
BALANCE
OFF
DNR
ACOUSTIC ENHANCE
OFF
SYNTHETIC STEREO
ON
OFF
LOUD
MONO
ST
MODE
ON
OFF
SCAN
MEMORY SET
CATV
TV
CATV/TV
DECODER
57
58
59
60
61
62
63
64
65
66
67
68

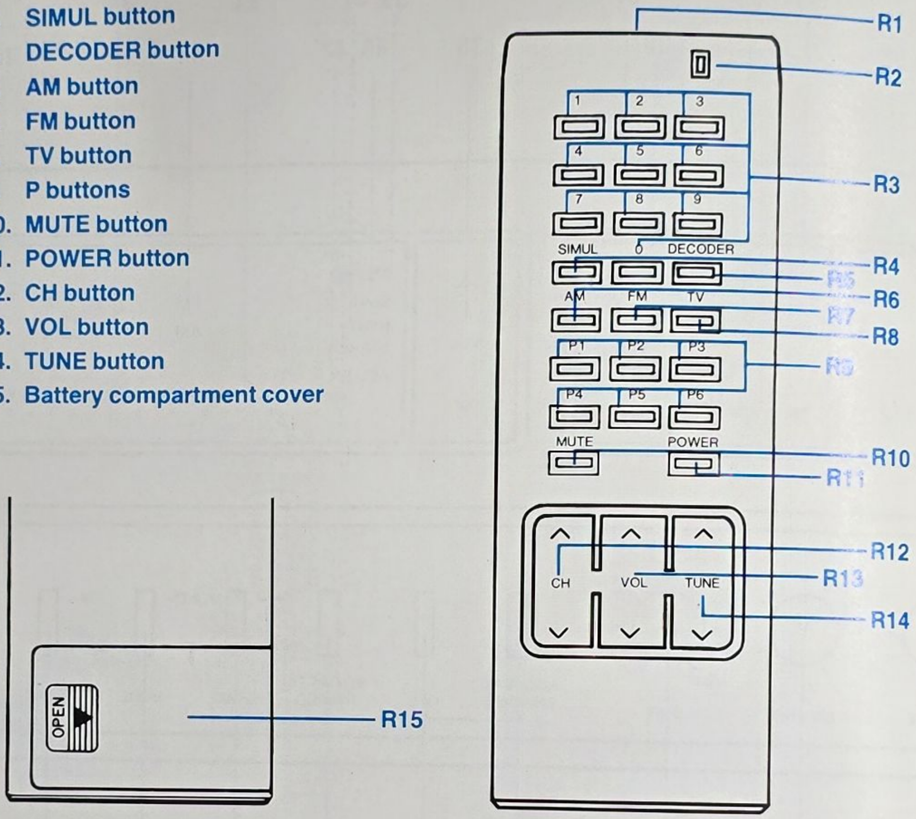
NAMES OF ALL BUTTONS, SWITCHES, CONNECTIONS, LIGHTS AND CONTROLS

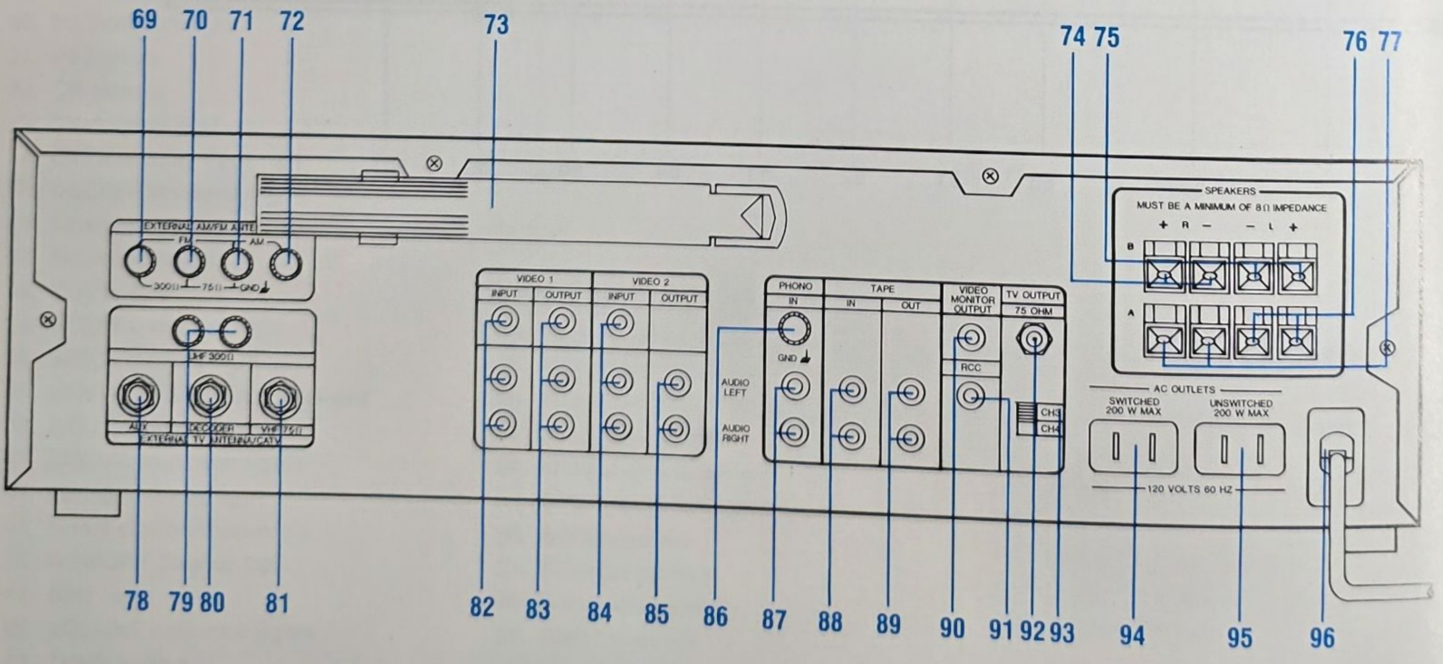
BACK PANEL

69. FM 300 ohm terminal
70. FM 300-75 ohm terminal
71. FM 75 ohm GND terminal
72. AM antenna terminal
73. AM antenna
74. Speaker B right terminals
75. Speaker B left terminals
76. Speaker A left terminals
77. Speaker A right terminals
78. AUX antenna terminal
79. UHF 300 ohm terminals
80. DECODER terminal
81. VHF 75 ohm terminal
82. VIDEO 1 INPUT terminals
83. VIDEO 1 OUTPUT terminals
84. VIDEO 2 INPUT terminals
85. VIDEO 2 OUTPUT terminals
86. PHONO GND terminal
87. PHONO IN terminals
88. TAPE IN terminals
89. TAPE OUT terminals
90. VIDEO MONITOR OUTPUT terminal
91. RCC terminal
92. TV OUTPUT terminal
93. CH3 CH4 switch
94. AC outlet switched
95. AC outlet unswitched
96. AC power

REMOTE CONTROL

R1. Infrared transmitting port
R2. Indicator light
R3. Number buttons
R4. SIMUL button
R5. DECODER button
R6. AM button
R7. FM button
R8. TV button
R9. P buttons
R10. MUTE button
R11. POWER button
R12. CH button
R13. VOL button
R14. TUNE button
R15. Battery compartment cover


R1
R2
1
2
3
4
5
6
7
8
9
R3
SIMUL
0
DECODER
R4
R5
AM
FM
TV
R6
R7
R8
P1
P2
P3
R9
P4
P5
P6
MUTE
POWER
R10
R11
R12
CH
VOL
TUNE
R13
R14
OPEN
R15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72
73
74 75
76 77
EXTERNAL AM/FM ANTE
FM
AM
300Ω
75Ω
GND
UHF 300Ω
AUX
DECODER
VHF 75Ω
EXTERNAL TV ANTENNA/CATV
VIDEO 1
VIDEO 2
INPUT
OUTPUT
INPUT
OUTPUT
AUDIO LEFT
AUDIO RIGHT
PHONO
IN
GND
TAPE
IN
OUT
VIDEO MONITOR OUTPUT
RCC
TV OUTPUT
75 OHM
CH3
CH4
SPEAKERS
MUST BE A MINIMUM OF 8Ω IMPEDANCE
+ R −
− L +
B
A
AC OUTLETS
SWITCHED 200 W MAX
UNSWITCHED 200 W MAX
120 VOLTS 60 HZ
78
79 80
81
82
83
84
85
86
87
88
89
90
91 92 93
94
95
96

SPECIFICATIONS

AMPLIFIER SECTION

Continuous power output, RMS, each channel into 8 ohms at rated distortion	50 W
Total Harmonic Distortion at Rated Output	<0.05%
Intermodulation Distortion at Rated Output	<0.05%
Damping Factor	40

AUDIO FREQUENCY RESPONSE:

Phono (RIAA)	± 0.5 dB
Tape (20 Hz-20 kHz)	± 1 dB
Video 1 (20 Hz-20 kHz)	± 1 dB
Video 2 (20 Hz-20 kHz)	± 1 dB

AUDIO INPUT SENSITIVITY/IMPEDANCE:

Phono	2.5 mV/47k ohms
Tape	150 mV/47k ohms
Video 1	150 mV/47k ohms
Video 2	150 mV/47k ohms

AUDIO SIGNAL TO NOISE RATIO (IHF-A):

Phono (MM), 2.5 mV	86 dB
Tape	90 dB
Video 1	90 dB
Video 2	90 dB

AUDIO OUTPUT LEVEL/IMPEDANCE

Tape	150 mV/10k ohms
Video 1	150 mV/10k ohms
Video 2	150 mV/10k ohms

VIDEO INPUT SENSITIVITY/IMPEDANCE

Video 1	1.0 V P-P/75 ohm, unbalanced
Video 2	1.0 V P-P/75 ohm, unbalanced

VIDEO OUTPUT LEVEL/IMPEDANCE

Video 1	1.0 V P-P/75 ohm
Monitor	1.0 V P-P/75 ohm
RF Output	Switchable CH 3-4

TONE CONTROLS

Bass	100 Hz ± 10 dB
Treble	10 kHz ± 10 dB
Loudness Control	100 Hz + 7 dB, 10 kHz + 4 dB, 20 kHz + 7 dB

AUDIO TUNER SECTION

FM:

Type	Frequency Synthesized, PLL
Sensitivity	12.8 dBf/1.2 µV at 75 ohms
50 dB Quieting Mono	19.2 dBf/2.5 µV
50 dB Quieting, Stereo	40.8 dBf/30 µV
Signal to Noise Ratio Mono/Stereo	82 dB/74 dB
THD at 1 kHz, Mono/Stereo	0.08%/0.15%
Selectivity, 400 kHz	75 dB
Stereo Separation 1 kHz	45 dB
AM Suppression	60 dB
Antenna	300 ohm/75 ohm

AM:

Sensitivity (Ferrite Ant)	250 µV/m
Signal to Noise Ratio	50 dB
Selectivity	40 dB
Antenna	Ferrite Bar

VIDEO TUNER SECTION

Type	Digital Frequency Synthesized
System	NTSC Color
Tuning Range	VHF 2-13, UHF 14-83, CATV Mid Band A-1, Superband J-W, Hyperband AA-WW
Sound Frequency Response	65 Hz-15 kHz
Antenna	
VHF/CATV	75 ohm, unbalanced
UHF	300 ohm, balanced

GENERAL

Power Requirements	AC-120 V/60 Hz
Power Consumption	150W
Power Outlets SW/UNSW.	200W/200W
Dimensions	17"Wx4⅜"Hx18"D
Weight	27 lbs.

Specifications Subject To Change Without Notice

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